

THE AMERICAN  
JOURNAL OF PHYSIOLOGY

EDITED FOR

The American Physiological Society

Index to Volumes I to XXX

BOSTON, U. S. A.

1913

THE AMERICAN JOURNAL OF PHYSIOLOGY is issued monthly. The price of one volume, sent postage free to subscribers in the United States and Canada, is five dollars and fifty cents; to subscribers in other countries, five dollars and seventy-five cents. The price of Volumes One, Two, and Three will be six dollars to domestic subscribers, and six dollars and twenty-five cents to foreign subscribers. All subscriptions are payable in advance.

---

The price of the Index of Authors and of Subjects in the first thirty volumes is four dollars, payable in advance.

---

Subscriptions, manuscript, and all other communications should be sent to THE AMERICAN JOURNAL OF PHYSIOLOGY, Box 127, Back Bay P. O. Boston, Mass., U.S.A.

---

Copyright, 1913, by THE PLIMPTON PRESS

---

Printed at THE PLIMPTON PRESS, Norwood, Mass., U.S.A.

*Entered at the Boston, Mass., Post Office, as second-class matter, Feb. 11, 1903.*

Index to Volumes I to XXX

ABBO

ABBO  
ABBO

ABEL

F

C

C

C

C

C

C

ADAM

ADLE

ALBR  
ALDR

I

C

A

A

ALDI



# Alphabetical List of Authors

## A

**ABBOTT, F. M.** (reported by W. P. LOMBARD). A method of studying the action of the muscles of the hind leg of the frog, 1906, **XV**, p. xxxii.

**ABBOTT, F. M.** See LOMBARD and ABBOTT, 1907, **XX**, p. 1.

**ABBOTT, J. F.,** and **A. C. LIFE.** Galvanotropism in bacteria, 1908, **XXII**, p. 202.

**ABEL, J. J.** Epinephrin, the active constituent of the suprarenal capsule, and its compounds, 1899, **II**, p. iii.

Further observations on epinephrin, 1901, **V**, p. v.

On the behavior of extracts of the suprarenal gland toward Fehling's solution, 1903, **VIII**, p. xxx.

On the elementary composition of adrenalin, 1903, **VIII**, p. xxix.

On the formation and composition of highly active salts of epinephrin, 1899, **II**, p. iv.

On the oxidation of epinephrin and adrenalin with nitric acid, 1903, **VIII**, p. xxxi.

On the phenylcarbamic esters of epinephrin, 1900, **III**, p. xvii.

On the true elementary composition of purified adrenalin and the relation of the substance to epinephrin, 1903, **IX**, p. xvii.

**ADAMS, G. P.** On the negative and positive phototropism of the earth-worm *Allolobophora foetida* (Sav.) as determined by light of different intensities, 1903, **IX**, 26.

**ADLER, H. M.** A clinical method for determining the alkalinity of the blood, 1907, **XIX**, p. 1.

**ALBRO, ALICE H.** See CHITTENDEN and ALBRO, 1898, **I**, p. 307; 1899, **II**, p. 291.

**ALDRICH, T. B.** Is adrenalin the active principle of the suprarenal gland? 1902, **VII**, p. 359.

Is the activity of the digestive ferments inhibited or stopped in a saturated aqueous solution of chloretone? 1900, **IV**, p. xv.

On feeding young pups the anterior lobe of the pituitary gland, 1912, **XXX**, p. 352.

A preliminary contribution to the chemistry of the infundibular portion of the pituitary gland, 1908, **XXI**, p. xxiii.

A preliminary report on the active principle of the suprarenal gland, 1901, **V**, p. 457.

**ALDRICH, T. B.,** and **E. M. HOUGHTON.** A further contribution to the pharmacology of chloretone, 1900, **III**, p. xxvi.

- ALDRICH, T. B.** See HOUGHTON and ALDRICH, 1903, **VIII**, p. xviii.
- ALSBERG, C. L.** Concerning the guajac reaction, 1908, **XXI**, p. xxvi.
- ALSBERG, C. L., and O. FOLIN.** Protein metabolism in cystinuria, 1905, **XIV**, p. 54.
- ALBSERG, C. L.** See FITZ, ALSBERG, and HENDERSON, 1907, **XVIII**, p. 113.  
See LEVENE and ALSBERG, 1900, **IV**, p. xi.
- AMBERG, S.** The toxicity of epinephrin (adrenalin), 1903, **VIII**, p. xxxiii.
- AMERICAN PHYSIOLOGICAL SOCIETY, PROCEEDINGS.** See PROCEEDINGS OF AMERICAN PHYSIOLOGICAL SOCIETY.
- ARKIN, L.** See PARKER and ARKIN, 1901, **V**, p. 151.
- ARTEAGA, J. F.** Phlorhizin diabetes in cats, 1901, **VI**, p. 173.
- ASHER, L.** See GIES and ASHER, 1900, **III**, p. xix.
- ATWATER, W. O.** Abstract of paper on the nutritive value of alcohol, 1900, **III**, p. xiii.  
Coefficients of digestibility and availability of the nutrients of food, 1904, **X**, p. xxx.  
On the sources of muscular energy, 1903, **VIII**, p. xlii.
- AUER, CLARA N.** See MELTZER and AUER, 1904, **XI**, pp. 28, 40, 449.
- AUER, J.** Action of the digitalis group upon the heart and its similarity to cardiac anaphylaxis, 1912, **XXXIX**, p. xvi.  
Acute anaphylactic death in rabbits, 1911, **XXVII**, p. xxiv.  
The course of the contraction wave in the stomach of the rabbit, 1908, **XXIII**, p. 165.  
The effect of carbon dioxide upon the pupils of frogs, 1909, **XXIII**, p. xvi.  
The effect of severing the vagi or the splanchnics or both upon gastric motility in rabbits, 1910, **XXV**, p. 334.  
The effect of subcutaneous and intravenous injections of some saline purgatives upon intestinal peristalsis and purgation, 1906, **XVII**, p. 15.  
Gastric peristalsis in rabbits under normal and some experimental conditions 1907, **XVIII**, p. 347.  
The inhibitory effect of laparotomy upon some of the functions of the splanchnic nerves, 1909, **XXIII**, p. xvii.  
Observations on normal gastric peristalsis in the rabbit, 1907, **XVIII**, p. xi.  
The prophylactic action of atropin in immediate anaphylaxis of guinea pigs. — Third communication, 1910, **XXVI**, p. 439.
- AUER, J. and S. J. MELTZER.** The effect of calcium infusions upon the irritability of the heart vagus, 1909, **XXIII**, p. xx.  
The influence of calcium upon the pupil and the pupillomotor fibres of the sympathetic nerve, 1909, **XXV**, p. 43.  
Inhibition of respiration by distention of the lungs of dogs under intratracheal insufflation, 1912, **XXIX**, p. xxxii.  
Peristalsis of the rabbit's cœcum, 1907, **XVIII**, p. xiv.
- AUER, J. and S. J. MELTZER.** The respiratory effect of electrical stimulation of the central end of the vagus nerves in dogs under intratracheal insufflation, 1912, **XXIX**, p. xxix.

- AUER, J.** See JONES and AUER, 1901, **V**, pp. 321, xvii.  
See MELTZER and AUER, 1905, **XIII**, p. xxxii.  
See MELTZER and AUER, 1905, **XIV**, p. 366.  
See MELTZER and AUER, 1906, **XV**, pp. xxxi, 387.  
See MELTZER and AUER, 1906, **XVI**, p. 233.  
See MELTZER and AUER, 1906, **XVII**, pp. 143, 313.  
See MELTZER and AUER, **XVIII**, p. xiv.  
See MELTZER and AUER, 1907, **XX**, p. 259.  
See MELTZER and AUER, 1908, **XXI**, pp. 400, 440, xi.  
See MELTZER and AUER, 1908, **XXIII**, p. 141.  
**AUSTIN, M. F.** See HOWELL and AUSTIN, 1900, **III**, p. xxii.  
**AUSTRIAN, C. R.** See EYSTER, AUSTRIAN, and KINGSLEY, 1907, **XVIII**, p. 413.  
See JONES and AUSTRIAN, 1907, **XIX**, p. xix.

## B

- BAETJER, F. H.** See GILMAN and BAETJER, 1904, **X**, p. 222.  
**BAITSELL, G. A.** See WOODRUFF and BAITSELL, 1911, **XXIX**, p. 147.  
**BALDWIN, W. M.** The relation of the pancreas to sugar metabolism, 1910, **XXV**, p. xxi.  
**BANCROFT, F. W.** The venomotor nerves of the hind limb, 1898, **I**, p. 477.  
**BARBOUR, G. F.,** and **P. G. STILES.** On localized contraction in skeletal muscle. 1911, **XXVII**, p. xi.  
**BARDEEN, C. R.** The function of the brain in *Planaria maculata*, 1901, **B**, p. 175.  
On the physiology of the *Planaria maculata*, with especial reference to the phenomena of regeneration, 1901, **V**, p. 1.  
**BARRINGER, B. S.** See BARRINGER, T. B., and B. S. BARRINGER, 1910, **XXVII**, p. 119.  
**BARRINGER, T. B.** and **B. S. BARRINGER.** A comparison of the total nitrogen excretion of either kidney in normal individuals during varying periods of time, 1910, **XXVII**, p. 119.  
**BARRINGER, T. B.** See HENDERSON, BARRINGER, and HARVEY, 1909, **XXIII**, p. xxx.  
**BARROWS, F. W.** The effect of inanition on the structure of nerve cells, 1898, **I**, p. xiv.  
**BARTLETT, F. H.** On the variations of blood pressure during the breathing of rarefied air, 1903, **X**, p. 149.  
**BAUMGARTEN, W.** Infarction in the heart, 1899, **II**, p. 243.  
**BAYNE-JONES, S.** The presence of prothrombin and thromboplastin in the blood platelets, 1912, **XXX**, p. 74.  
**BEACH, F. E.** A determination of the errors of eccentricity and collimation in the human eye, 1906, **XV**, p. 295.  
**BECHT, F. C.** Some observations on the nature of heat paralysis in nervous tissues, 1908, **XXII**, p. 456.

- BECHT, F. C., and A. B. LUCKHARDT.** The source of the immune bodies in the lymphs, 1911, **XXVI**, p. xi.
- BECHT, F. C.** See CARLSON, GREER, and BECHT, 1907, **XIX**, p. 360.  
 See CARLSON, GREER, and BECHT, 1907, **XX**, p. 180.  
 See CARLSON, GREER, and BECHT, 1908, **XXI**, p. xxvi.  
 See CARLSON, GREER, and BECHT, 1908, **XXII**, p. 104.  
 See GREER, and BECHT, 1910, **XXV**, p. 292.  
 See LUCKHARDT and BECHT, 1911, **XXVII**, p. xvi.  
 See LUCKHARDT and BECHT, 1911, **XXVIII**, p. 257.
- BEEBE, S. P.** Antibodies produced by the injection of nucleoproteids, 1906, **XV**, p. xxxi.  
 The chemistry of malignant growths.—First communication, 1904, **XI**, p. 139.  
 The chemistry of malignant growths. II.—The inorganic constituents of tumors, 1904, **XII**, p. 167.  
 The chemistry of malignant growths. III.—Nucleo-histon as a constituent of tumors, 1905, **XIII**, p. 341.  
 The effects of alcohol and alcoholic fluids upon the excretion of uric acid in man, 1903, **IX**, p. xi; 1904, **XII**, p. 13.  
 The inhibition of tetany parathyreopriva by extracts of the parathyroid gland, 1907, **XIX**, p. xiii.  
 A note on the influence of heat on enzymes, 1902, **VII**, p. 295.
- BEEBE, S. P., and B. H. BUXTON.** The production of fat from proteid by the bacillus pyocyanus, 1905, **XII**, p. 466.  
 Some new laboratory apparatus, 1905, **XIV**, p. 7.
- BEEBE, S. P., and P. SHAFFER.** The chemistry of malignant growths. IV.—The pentose content of tumors, 1905, **XIV**, p. 231.
- BEERS, W. H.** See STILES and BEERS, 1905, **XV**, p. 133.
- BENEDICT, F. G.** An apparatus for studying the respiratory exchange, 1909, **XXIV**, p. 345.  
 A comparison of the direct and indirect determination of oxygen consumed by man, 1910, **XXVI**, p. 15.  
 The excretion of nitrogen during nervous excitement, 1902, **VI**, p. 398.  
 The nutritive requirements of the body, 1906, **XVI**, p. 409.  
 Studies in body-temperature. I.—Influence of the inversion of the daily routine; the temperature of night-workers, 1904, **XI**, p. 145.
- BENEDICT, F. G., and A. R. DIEFENDORF.** The analysis of urine in a starving woman, 1907, **XVIII**, p. 362.
- BENEDICT, F. G. and L. E. EMMES.** The influence upon metabolism of non-oxidizable material in the intestinal tract, 1912, **XXX**, p. 197.
- BENEDICT, F. G., L. E. EMMES, and J. A. RICHE.** The influence of the preceding diet on the respiratory quotient after active digestion has ceased, 1911, **XXVII**, p. 383.
- BENEDICT, F. G., and H. L. HIGGINS.** Effects on men at rest of breathing oxygen-rich gas mixtures, 1911, **XXVIII**, p. 1.  
 The influence on the respiratory exchange of varying amounts of carbohydrate in the diet, 1912, **XXX**, p. 217.

- BENEDICT, F. G., and J. HOMANS.** A respiration apparatus for the determination of the carbon dioxide produced by small animals, 1911, **XXVIII**, p. 20.
- BENEDICT, F. G., and CHARLOTTE R. MANNING.** The determination of water in foods and physiological preparations, 1905, **XIII**, p. 309.  
The determination of water in proteins, 1907, **XVIII**, p. 213.
- BENEDICT, F. G., and V. C. MYERS.** The determination of creatine and creatinine, 1907, **XVIII**, p. 397.  
The elimination of creatine, 1907, **XVIII**, p. 406.  
The elimination of creatinine in women, 1907, **XVIII**, p. 377.
- BENEDICT, F. G., and E. OSTERBERG.** The elementary composition and heat of combustion of human fat, 1900, **IV**, p. 69.
- BENEDICT, F. G., J. A. RICHE, and L. E. EMMES.** Control tests of a respiration calorimeter, 1910, **XXVI**, p. 1.
- BENEDICT, F. G.** See CARPENTER and BENEDICT, 1909, **XXIII**, p. 412.  
See CARPENTER and BENEDICT, 1909, **XXIV**, pp. 187, 203.  
See EMERY and BENEDICT, 1911, **XXVIII**, p. 301.  
See HIGGINS and BENEDICT, 1911, **XXVIII**, p. 291.
- BENEDICT, S. R.** The influence of salts and non-electrolytes upon the heart, 1908, **XXII**, p. 16.  
The rôle of certain ions in rhythmic heart activity, 1905, **XIII**, p. 192.  
See MENDEL and BENEDICT, 1909, **XXIII**, p. xviii.  
See MENDEL and BENEDICT, 1909, **XXV**, pp. 1, 23.
- BENSON, C. C.** See MACALLUM and BENSON, 1907, **XIX**, p. xix.
- BERG, W. N.** A comparative study of the digestibility of different proteins in pepsin-acid solutions, 1909, **XXIII**, p. 420.
- BERGIN, T. J.** See MOORE and BERGIN, 1900, **III**, p. 316.
- BEYER, H. G.** See PORTER and BEYER, 1900, **III**, pp. xxiii, xxiv.  
See PORTER and BEYER, 1900, **IV**, p. 283.
- BLACK, O. F.** See HENDERSON and BLACK, 1907, **XVIII**, p. 250.  
See HENDERSON and BLACK, 1908, **XXI**, p. 420.
- BLACKMAN, J. R.** See ERLANGER and BLACKMAN, 1907, **XIX**, p. 125.  
See ERLANGER, BLACKMAN, and CULLEN, 1908, **XXI**, p. xviii.
- BOWEN, W. P.** Changes in heart-rate, blood pressure, and duration of systole resulting from bicycling, 1904, **XI**, p. 59.  
(Reported by W. P. LOMBARD.) Exhibition of mercury-mercury stimulator, 1903, **VIII**, p. xx.  
(Reported by W. P. LOMBARD.) Exhibition of new form of platinum-mercury stimulator, 1903, **VIII**, p. xx.  
See HIGLEY and BOWEN, 1904, **XII**, p. 311.
- BRADLEY, H. C.** See MENDEL and BRADLEY, 1905, **XIII**, p. 17.  
See MENDEL and BRADLEY, 1905, **XIV**, p. 313.  
See MENDEL and BRADLEY, 1906, **XVII**, p. 167.
- BRAUDE, B.** The bacterio-agglutinating action of lymph under different conditions of lymph formation, 1908, **XXI**, p. xxv.

- BRAUDE, B., and A. J. CARLSON.** The influence of various lymphagogues on the relative concentration of bacterio-agglutinins in serum and lymph, 1908, **XXI**, p. 221.
- BRAUTLECHT, C. A.** See OSBORNE, LEAVENWORTH, and BRAUTLECHT, 1908, **XXIII**, p. 180.
- BREISACHER, L.** A contribution to the physiology of the thyroid gland, 1902, **VI**, p. xxvi.
- BRINK, F. N.** See HENDERSON and BRINK, 1908, **XXI**, p. 248.
- BRODIE, T. G.** Demonstration of a new method of determining the rate of blood flow through an organ, 1900, **XXIII**, p. xxxvii.  
Some recent variations in the analysis of the gases in small volumes of blood by the chemical method, 1909, **XXIII**, p. xxxvii.
- BROOKS, C.** Blood pressure in the normal unanesthetized animal under various conditions, 1912, **XXIX**, p. xxii.  
The effect of lesions of the dorsal nerve roots on the reflex excitability of the spinal cord, 1910, **XXVII**, p. 212.  
On conduction and contraction in skeletal muscle in water rigor, 1906, **XVII**, p. 218.  
See MCGUIGAN and BROOKS, 1907, **XVIII**, p. 256.
- BROWN, E. D., and T. SOLLMANN.** The blood pressure fall produced by traction on the carotid artery, 1912, **XXIX**, p. xxxv.
- BROWN, E. D.** See SOLLMANN, 1906, **XV**, p. 121.  
See SOLLMANN and BROWN, 1907, **XVIII**, p. 426.  
See SOLLMANN and BROWN, 1912, **XXX**, p. 88.  
See SOLLMANN, BROWN, and WILLIAMS, 1907, **XX**, p. 74.
- BROWN, E. W.** A note on the cholesterin-esters of birds' blood, 1899, **II**, p. 306.  
Notes on *Cetraria islandica* (Iceland moss), 1898, **I**, p. 455.  
See MENDEL and BROWN, 1900, **III**, p. 261.  
See MENDEL and BROWN, 1900, **III**, p. xxxi.
- BROWN, O. H.** A colloidal compound of strychnine, and its pharmacology, 1906, **XV**, p. xxii.  
The comparative toxicity for paramœcia of the salts of strychnine, of morphine, and of quinine, 1906, **XV**, p. xxiv.  
Effects of certain salts on kidney excretion, with special reference to glycosuria, 1904, **X**, p. 378.  
The immunity of *Fundulus* eggs and embryos to electrical stimulation, 1903, **IX**, p. 111.  
The permeability of the membrane of the egg of *Fundulus heteroclitus*, 1905, **XIV**, p. 354.  
A pharmacological study of anesthetics and narcotics, 1905, **XV**, p. 85.
- BROWN, O. H., and C. C. GUTHRIE.** The effects of intravenous injections of bone marrow extracts upon blood pressure, 1905, **XIV**, p. 328.
- BROWN, O. H., and D. R. JOSEPH.** The effects of intravenous injections of extracts of the bone marrow of swine on the blood pressure in dogs, 1906, **XVI**, p. 110.

- BROWN, O. H., and C. H. NEILSON.** The influence of alkaloids and alkaloidal salts upon catalysis, 1905, **XIII**, p. 427.
- BROWN, O. H.** See MATTHEWS and BROWN, 1904, **XI**, p. 1.  
See MATTHEWS and BROWN, 1904, **XII**, p. 173.  
See NEILSON and BROWN, 1904, **X**, pp. 225, 335.  
See NEILSON and BROWN, 1904, **XII**, p. 374.
- BRUBAKER, A. P.** Demonstration of apparatus, 1905, **XIII**, p. xxxvii.
- BRUCE, J. W., J. R. MILLER, and D. R. HOOKER.** The effect of smoking upon the blood pressures and upon the volume of the hand, 1909, **XXIV**, p. 104.
- BRUSH, C. E., Jr., and R. FAYERWEATHER.** Observations on the changes in blood pressure during normal sleep, 1901, **V**, pp. 109, iii.
- BRYANT, A. P., and R. D. MILNER.** Experiments on the digestibility of vegetables, 1903, **X**, p. 81.
- BUDGETT, S. P.** On the similarity of structural changes produced by lack of oxygen and certain poisons, 1898, **I**, p. 210.
- BUDGETT, S. P., and J. GREEN, Jr.** The functional adaptability of afferent nerve fibres, 1899, **III**, p. 115.
- BUDINGTON, R. A.** Some physiological characteristics of annelid muscle, 1902, **VII**, p. 155.
- BUERGER, L., and W. J. GIES.** The chemical constituents of tendinous tissue, 1901, **VI**, p. 219.
- BULLARD, W. N.** See CANNON, 1901, **VI**, p. 91.
- BULLOT, G.** On the swelling of organic tissues. — Researches on the cornea, 1904, **XII**, p. 297.
- BUNZEL, H. H.** The rate of oxidation of sugars in an acid medium, 1908, **XXI**, p. 23.
- BUNZEL, H. H.** See WOODRUFF and BUNZEL, 1909, **XXV**, p. 190.
- BURGE, W. E.** The separation of rennin and pepsin by the passage of a direct electric current, 1912, **XXIX**, p. 330.
- BURKET, I. R.** The influence of adrenalin, modified by salts, on the blood pressure in the cat, 1912, **XXX**, p. 382.
- BURNETT, F. L.** See PARKER and BURNETT, 1900, **IV**, p. 373.
- BURNETT, T. C.** Some observations on decerebrate frogs with especial reference to the formation of associations, 1912, **XXX**, p. 80.
- BUSCH, F. C.** Suprarenal transplantation, 1906, **XV**, p. xxxi.
- BUSCH, F. C., and T. H. McKEE.** Resuscitation by the direct injection of adrenalin into the heart cavities, 1909, **XXIII**, p. xxi.
- BUSCH, F. C., and C. VAN BERGEN.** Further results in suprarenal grafting, 1905, **XIII**, p. xvi.  
Suprarenal grafting in the kidneys of rabbits with survival of an animal after subsequent removal of the remaining suprarenal, 1904, **X**, p. xix.  
Suprarenal transplantation with preservation of function, 1906, **XV**, p. 444.
- BUXTON, B. H.** See BEEBE and BUXTON, 1905, **XII**, p. 466.  
See BEEBE and BUXTON, 1905, **XIV**, p. 7.



## C

- CALDWELL, G. H.** A note on the effects of intravenous injections of thyroid pressure liquid in dogs and cats, 1912, **XXX**, p. 42.
- CALHOUN, H.** See KEMP and CALHOUN, 1901, **V**, p. iv.
- CANNON, W. B.** The acid closure of the cardia, 1908, **XXIII**, p. 105.  
 The acid control of the pylorus, 1907, **XX**, p. 283.  
 Auscultation of the rhythmic sounds produced by the stomach and intestines, 1905, **XIV**, p. 339.  
 Cerebral pressure following trauma, 1901, **VI**, p. 91.  
 Demonstration of the movements of the stomach and intestine, observed by means of the Röntgen rays, 1903, **VIII**, p. xli.  
 The emptying of the human stomach, 1904, **X**, p. xix.  
 Further observations on the mechanism of the pylorus, 1906, **XV**, p. xxv.  
 Further observations on the movements of the stomach and intestines, 1903, **VIII**, p. xxi.  
 Further observations on the myenteric reflex, 1909, **XXIII**, p. xxvi.  
 The motor activities of the stomach and small intestine after splanchnic and vagus section, 1906, **XVII**, p. 429.  
 The movements of the intestines studied by means of the Röntgen rays, 1902, **VI**, pp. 251, xxvii.  
 The movements of the stomach, studied by means of the Röntgen rays, 1908, **I**, pp. 359, xiii.  
 The nature of gastric peristalsis, 1911, **XXIX**, p. 250.  
 Observations on the alimentary canal after splanchnic and vagus section, 1905, **XIII**, p. xxii.  
 Oesophageal peristalsis after bilateral vagotomy, 1907, **XIX**, p. 436.  
 The passage of different food-stuffs from the stomach, 1904, **X**, p. xvii.  
 The passage of different food-stuffs from the stomach and through the small intestine, 1904, **XII**, p. 387.  
 Peristalsis, segmentation, and the myenteric reflex, 1912, **XXX**, p. 111.  
 The relation of tonus to antiperistalsis in the colon, 1911, **XXIX**, p. 238.  
 Some observations on the nature of gastric peristalsis, 1911, **XXVII**, p. xii.  
 Some observations on the neuromuscular mechanism of the alimentary canal, 1908, **XXI**, p. xx.
- CANNON, W. B., and H. F. DAY.** Salivary digestion in the stomach, 1903, **VIII**, p. xxviii.  
 Salivary digestion in the stomach, 1903, **IX**, p. 396.
- CANNON, W. B., and D. DE LA PAZ.** Emotional stimulation of adrenal secretion, 1911, **XXVIII**, p. 64.
- CANNON, W. B., and R. G. HOSKINS.** The effects of asphyxia, hyperpnœa, and sensory stimulation on adrenal secretion, 1911, **XXIX**, p. 274.
- CANNON, W. B., and C. W. LIEB.** The receptive relaxation of the stomach, 1911, **XXVII**, p. xiii.  
 The receptive relaxation of the stomach, 1911, **XXIX**, p. 267.



- CANNON, W. B., and A. MOSER.** The movements of the food in the œsophagus, 1898, **I**, p. 435.
- CANNON, W. B., and F. T. MURPHY.** The movements of the stomach and intestine in some surgical conditions, 1906, **XV**, p. xxv.
- CANNON, W. B., and L. B. NICE.** The effect of splanchnic stimulation on muscular fatigue, 1912, **XXIX**, p. xxiv.
- CANNON, W. B., A. T. SHOHL, and W. S. WRIGAN.** Emotional glycosuria, 1911, **XXIX**, p. 280.
- CANNON, W. B., and A. L. WASHBURN.** An explanation of hunger, 1912, **XXIX**, p. 441.
- CANNON, W. B.** See MOSER and CANNON, 1898, **I**, p. xii.
- CARLSON, A. J.** Comparative physiology of the invertebrate heart. II. — The function of the cardiac nerves in molluscs, 1905, **XIII**, p. 306.
- Comparative physiology of the invertebrate heart. III. — Physiology of the cardiac nerves in molluscs (continued), 1905, **XIV**, p. 16.
- Comparative physiology of the invertebrate heart. IV. — The physiology of the cardiac nerves in the arthropods, 1906, **XV**, p. 127.
- Comparative physiology of the invertebrate heart. V. — The heart rhythm under normal and experimental conditions, 1906, **XVI**, p. 47.
- Comparative physiology of the invertebrate heart. VI. — The excitability of the heart during the different phases of the heart beat, 1906, **XVI**, p. 67.
- Comparative physiology of the invertebrate heart. VII. — The relation between the intensity of the stimulus and the magnitude of the contraction, 1906, **XVI**, p. 85.
- Comparative physiology of the invertebrate heart. VIII. — The inhibitory effects of the single induced shock, 1906, **XVI**, p. 100.
- Comparative physiology of the invertebrate heart. X. — A note on the physiology of the pulsating blood vessels in the worms, 1908, **XXII**, p. 353.
- The condition of the digestive tract in parathyroid tetany in cats and dogs, 1912, **XXX**, p. 309.
- The conductivity produced in the non-conducting myocardium of *Limulus* by sodium chloride in isotonic solution, 1908, **XXI**, p. 11.
- The effects of stretching the nerve on the rate of conduction of the nervous impulse, 1911, **XXVII**, p. 323.
- Further evidence of the direct relation between the rate of conduction in a motor nerve and the rapidity of contraction in the muscle, 1906, **XV**, p. 136.
- Further evidence of the fluidity of the conducting substance in nerve, 1905, **XIII**, p. 351.
- Further evidence of the nervous origin of the heart beat in *Limulus*, 1905, **XII**, p. 471.
- A method of studying the movements and the tonus of the empty digestive tract by the X-ray, 1912, **XXIX**, p. xxviii.
- The nature of cardiac inhibition with special reference to the heart of *Limulus*, 1905, **XIII**, p. 217.

**CARLSON, A. J.**

The nervous origin of the heart beat in *Limulus* and the nervous nature of co-ordination or conduction in the heart, 1904, **XII**, p. 67.

A note on the refractory state of the non-automatic heart muscle of *Limulus*, 1908, **XXI**, p. 19.

On the action of chloral hydrate on the heart with reference to the so-called physiological properties of heart muscle, 1906, **XVII**, p. 1.

On the action of cyanides on the heart, 1907, **XIX**, p. 223.

On the cause of the cessation of the rhythm of automatic tissues in isotonic solutions of non-electrolytes, 1906, **XVI**, p. 221.

On the chemical conditions for the heart activity, with special reference to the heart of *Limulus*, 1906, **XVI**, p. 378.

On the mechanism of co-ordination and conduction in the heart, with special reference to the heart of *Limulus*, 1906, **XV**, pp. xxxi, 99.

On the mechanism of the refractory period in the heart, 1907, **XVIII**, p. 71.

On the mechanism of the stimulating action of tension on the heart, 1907, **XVIII**, p. 149.

On the point of action of drugs on the heart with special reference to the heart of *Limulus*, 1906, **XVII**, p. 177.

Osmotic pressure and heart activity, 1906, **XV**, pp. xxxi, 357.

The presence of cardio-regulative nerves in the lampreys, 1906, **XVI**, p. 230.

The rate of the nervous impulse in the spinal cord and in the vagus and the hypoglossal nerves of the California hag fish (*Bdellostoma dombeiyi*), 1904, **X**, p. 401.

The relation of the normal heart rhythm to the artificial rhythm produced by sodium chloride, 1907, **XVII**, p. 478.

The rhythm produced in the resting heart of molluscs by the stimulation of the cardio-accelerator nerves, 1904, **XII**, p. 55.

Temperature and heart activity, with special reference to the heat standstill of the heart, 1906, **XV**, p. 207.

Vaso-dilator fibres to the submaxillary gland in the cervical sympathetic of the cat, 1907, **XIX**, p. 408.

**CARLSON, A. J., and A. L. CRITTENDEN.** The relation of ptyalin concentration to the diet and to the rate of secretion of the saliva, 1910, **XXVI**, p. 169.

**CARLSON, A. J., and F. M. DRENNAN.** The control of pancreatic diabetes in pregnancy by the passage of the internal secretion of the pancreas of the fetus to the blood of the mother, 1911, **XXVIII**, p. 391.

**CARLSON, A. J., J. R. GREER, and A. B. LUCKHARDT.** Contributions to the physiology of lymph. V. — The excess of chlorides in lymph, 1908, **XXII**, p. 91.

**CARLSON, A. J., J. R. GREER, and F. C. BECHT.** Contributions to the physiology of lymph. VI. — The lymphagogue action of lymph, 1908, **XXII**, p. 104.

**CARLSON, A. J., A. WOELFEL, and H. W. POWELL.** Contributions to the

- physiology of lymph. XVI. — On the local hemodynamic action of tissue metabolites, 1911, **XXVIII**, p. 176.
- CARLSON, A. J., and L. M. MARTIN.** Contributions to the physiology of lymph. XVII. — The supposed presence of the secretion of the hypophysis in the cerebrospinal fluid, 1911, **XXIX**, p. 64.
- CARLSON, A. J., J. R. GREER, and F. C. BECHT.** On the mechanism by which water is eliminated from the blood in the active salivary glands, 1907, **XIX**, p. 360.
- The relation between the blood supply to the maxillary gland and the character of the chorda and the sympathetic saliva in the dog and the cat, 1907, **XX**, p. 180.
- The relation of organic activity to lymph formation in the salivary glands, 1908, **XXI**, p. xxvi.
- Some points in lymph formation, 1908, **XXI**, p. xxvi.
- CARLSON, A. J., and CLARA JACOBSON.** The depression of the ammonia-destroying power of the liver after complete thyroidectomy, 1910, **XXV**, p. 403.
- Further studies on the nature of parathyroid tetany, 1911, **XXVIII**, p. 133.
- CARLSON, A. J., and A. B. LUCKHARDT.** The increase in the osmotic concentration of the blood during ether and chloroform anaesthesia, 1908, **XXI**, p. 162.
- On the diastases in the blood and the body fluids, 1908, **XXIII**, p. 148.
- CARLSON, A. J., and F. C. McLEAN.** Further studies on the relation of the oxygen supply of the salivary glands to the composition of the saliva, 1908, **XX**, p. 457.
- CARLSON, A. J., and W. J. MEEK.** On the mechanism of the embryonic heart rhythm in *Limulus*, 1908, **XXI**, p. 1.
- CARLSON, A. J., J. R. ROOKS, and J. F. McKIE.** Attempts to produce experimental hyperthyroidism, 1911, **XXVII**, p. xiii.
- Attempts to produce experimental hyperthyroidism in mammals and birds, 1912, **XXX**, p. 129.
- CARLSON, A. J., and J. G. RYAN.** The diastase in cat's saliva, 1908, **XXII**, p. 1.
- Glucose in saliva, 1908, **XXI**, p. 301.
- CARLSON, A. J., and A. WOELFEL.** On the internal secretions of the thyroid, 1909, **XXIII**, p. xix; 1910, **XXVI**, p. 32.
- CARLSON, A. J., A. WOELFEL, and W. H. POWELL.** A possible hormone vaso-motor mechanism, 1909, **XXIII**, p. xxiii.
- CARLSON, A. J.** See BRAUDE and CARLSON, 1908, **XXI**, p. 221.
- See DAVIS and CARLSON, 1909, **XXV**, p. 173.
- See GOULD and CARLSON, 1911, **XXIX**, p. 165.
- See HEKTOEN and CARLSON, 1910, **XXV**, p. xix.
- See HUGHES and CARLSON, 1908, **XXI**, p. 236.
- See JENKINS and CARLSON, 1903, **VIII**, p. 251.
- CARPENTER, T. M., and F. G. BENEDICT.** Mercurial poisoning of men in a respiration chamber, 1909, **XXIV**, p. 187.

**CARPENTER, T. M., and F. G. BENEDICT.**

Metabolism in man with greatly diminished lung area, 1909, **XXIII**, p. 412.

Preliminary observations on metabolism during fever, 1909, **XXIV**, p. 203.

**CARPENTER, T. M., and J. R. MURLIN.** The energy metabolism of parturient women, 1910, **XXV**, p. xxvi.**CARREL, A., G. M. MEYER, and P. A. LEVENE.** The influence of the removal of fragments of the intestinal tract on the character of nitrogen metabolism.

II. — The removal of the small intestines, 1910, **XXV**, p. 439.

The influence of the removal of fragments of the gastro-intestinal tract on the character of nitrogen metabolism. III. — The excision of the stomach, 1910, **XXVI**, p. 369.

**CARTER, W. S.** A note on the use of a saturated solution of magnesium sulphate for preventing the coagulation of blood in blood-pressure experiments, 1901, **V**, p. iii.

The physiological action of three poisonous toadstools — *Amanita muscaria*, *Amanita verna* or *bulbosa*, and *Amanita phalloides*, 1901, **V**, pp. 158, xvii.

The relation of the parathyroid to the thyroid gland, 1902, **VI**, p. xxvii.

**CATTELL, J. McK.** Instruments for the study of movement and fatigue, 1899, **II**, p. xx.**CECIL, H. L.** Note upon the preparation of thromboplastic extracts (thromboplastin) from tissues, 1911, **XXIX**, p. 156.**CHACE, A. F., and W. J. GIES.** Preliminary observations on the poisonous action of thorium, 1907, **XVIII**, p. 457.**CHAMBERLAIN, J. S.** See HAWK and CHAMBERLAIN, 1904, **X**, p. 269.**CHITTENDEN, A. S.** On the solution of mercury in the body-juices, 1899, **II**, p. vi.**CHITTENDEN, R. H.** The behavior of inulin in the gastro-intestinal tract, 1899, **II**, p. xvii.

A convenient form of sphygmograph, 1899, **II**, p. xx.

Variations in the amylolytic power of saliva and their relation to the chemical composition of the secretion, 1898, **I**, p. iii.

**CHITTENDEN, R. H., and A. H. ALBRO.** The formation of melanins or melanin-like pigments from proteid substances, 1899, **II**, p. 291.

The influence of bile and bile salts on pancreatic proteolysis, 1898, **I**, p. 807.

**CHITTENDEN, R. H., and A. C. EUSTIS.** The proportion of basic nitrogen yielded by elastin on decomposition with hydrochloric acid, 1900, **III**, p. xxxi.**CHITTENDEN, R. H., and W. J. GIES.** The influence of borax and boric acid upon nutrition, with special reference to proteid metabolism, 1898, **I**, p. 1.**CHITTENDEN, R. H., and Y. HENDERSON.** The proportion of nitrogen capable of being split off from proteids by the action of acids, 1900, **III**, p. xxx.**CHITTENDEN, R. H., L. B. MENDEL, and H. C. JACKSON.** A further study of the influence of alcohol and alcoholic drinks upon digestion, with special reference to secretion, 1898, **I**, p. 164.

- CHITTENDEN, R. H., L. B. MENDEL, and H. E. McDERMOTT.** Papain-proteolysis, with some observations on the physiological action of the products formed, 1898, **I**, p. 255.
- CHITTENDEN, R. H., L. B. MENDEL, and Y. HENDERSON.** A chemico-physiological study of certain derivatives of the proteids, 1899, **II**, p. 142.
- CHITTENDEN, R. H., and A. N. RICHARDS.** Variations in the amylolytic power and chemical composition of human mixed saliva, 1898, **I**, p. 461.
- CLAPP, S. H.** See OSBORNE and CLAPP, 1906, **XVII**, p. 231.  
See OSBORNE and CLAPP, 1907, **XVIII**, pp. 123, 295.  
See OSBORNE and CLAPP, 1907, **XIX**, pp. 53, 117, 468, 475.  
See OSBORNE and CLAPP, 1908, **XX**, pp. 470, 477, 494.
- CLARK, G. P.** An adjustable tracheal cannula for artificial respiration, 1905, **XIII**, p. xxxvii.  
A method of measuring and recording the maximum as well as the minimum blood pressure in man, 1905, **XIII**, p. xxvii.  
A model to represent the principal pathways in the nervous system, 1900, **III**, p. xxxi.  
On certain characteristics of the pressure sensations of the human skin, 1898, **I**, pp. 346, xi.  
A rheochord, 1901, **V**, p. xvii.
- CLARK, G. P. (for N. JACOBSON).** A hair-cast of a living human stomach, 1901, **V**, p. xvii.
- CLARK, W. I.** See PORTER and CLARK, 1908, **XXI**, p. xv.
- CLEGHORN, A.** The action of animal extracts, bacterial cultures, and culture filtrates on the mammalian heart muscle, 1899, **II**, p. 273.  
The physiological action of extracts of the sympathetic ganglia, 1899, **II**, p. 471.  
The reinforcement of voluntary muscular contractions, 1898, **I**, p. 336.
- CLEGHORN, A., and H. D. LLOYD.** The effect of carbon dioxide and oxygen on smooth muscle, 1901, **V**, p. xvi.
- CLEGHORN, A., and C. C. STEWART.** The inhibition time of a voluntary muscular contraction, 1901, **V**, p. 281.  
The reaction time of inhibition, 1900, **III**, p. xxi.
- CLOSSON, O. E.** The elimination of creatinin, 1906, **XVI**, p. 252.  
See MENDEL and CLOSSON, 1905, **XIII**, p. xix.  
See MENDEL and CLOSSON, 1906, **XVI**, p. 152.  
See UNDERHILL and CLOSSON, 1905, **XIII**, p. 358.  
See UNDERHILL and CLOSSON, 1906, **XV**, pp. 321, xx.  
See UNDERHILL and CLOSSON, 1906, **XVII**, p. 42.
- CLOWES, G. H. A.** The relationship between the freezing point depression and specific gravity of urine, under varying conditions of metabolism, and its clinical value in the estimation of sugar and albumin, 1903, **IX**, p. 319.
- CLOWES, G. H. A., and W. S. FRISBIE.** On the relationship between the rate of growth, age, and potassium and calcium content of mouse tumors (adenocarcinoma, Jensen), 1905, **XIV**, p. 173.

- COBB, P. W.** Contribution to our knowledge of the action of pepsin, with special reference to its quantitative estimation, 1905, **XIII**, p. 448.  
The influence of illumination of the eye on visual acuity, 1911, **XXIX**, p. 76.  
Some observations on the carbohydrate metabolism in partially depan-created dogs, 1905, **XIV**, p. 12.
- COOK, F. C.** The chemical composition of some Gorgonian corals, 1904, **XII**, p. 95.  
The effects of chloride, sulphate, nitrate, and nitrite radicles of some common bases on the frog's heart, 1909, **XXIV**, p. 263.
- COPE, O. M.** The peripheral resistance as a compensatory factor in the post-hemorrhagic recovery of blood pressure, 1911, **XXIX**, p. 137.
- CORIAT, I. H.** The cerebrospinal fluid in hydrocephalus, 1903, **X**, p. 111.  
The production of cholin from lecithin and brain tissue, 1904, **XII**, p. 353.
- CRILE, G. W.** Further observations upon surgical shock, 1909, **XXIII**, p. xxxvii.  
Observations on the effect of excessive transfusion of blood, 1908, **XXI**, p. xxvi.  
The resuscitation of animals killed by anæsthetics, 1908, **XXI**, p. xxvi.
- CRITTENDEN, A. L.** See CARLSON and CRITTENDEN, 1910, **XXVI**, p. 169.
- CROFUTT, E. F.** See HENDERSON and CROFUTT, 1905, **XIV**, p. 193.
- CROHN, B. B.** See WEINGARTEN and CROHN, 1908, **XXII**, p. 207.
- CROSBY, J. H.** See JENNINGS and CROSBY, 1901, **VI**, p. 31.
- CULLEN, E. K.** See ERLANGER, BLACKMAN, and CULLEN, 1908, **XXI**, p. xviii.
- CUNNINGHAM, R. H.** The restoration of coördinated, volitional movement after nerve "crossing," 1898, **I**, p. 239.
- CURTIS, J. G.** The use of excised mammalian muscles for purposes of demonstration, 1900, **III**, p. xi.
- CUSHING, H.** Concerning the poisonous effect of pure sodium chloride solutions upon the nerve-muscle preparation, 1901, **VI**, p. 77.  
The delineation of the motor cortex in the dog, 1904, **X**, p. xliii.  
The effect of extirpation of the Gasserian ganglion upon the sense of taste, 1903, **VIII**, p. xxvii.  
A note upon the faradization of the postcentral convolution of the human brain in conscious patients, 1909, **XXIII**, p. xxvi.
- CUSHING, H., and E. GOETSCH.** Concerning the secretion of the infundibular lobe of the pituitary body and its presence in the cerebrospinal fluid, 1910, **XXVII**, p. 60.
- CUSHING, H.** See REFOR and CUSHING, 1909, **XXIII**, p. xxvii.
- CUSHNY, A.** On the pharmacological action of optical isomers, 1903, **IX**, p. xiv.
- CUSHNY, A. R.** On saline diuresis, 1902, **VI**, p. xvii.  
On the glands of the oviduct in the fowl, 1902, **VI**, p. xviii.
- CUSHNY, A. R.** See WALLACE and CUSHNY, 1898, **I**, p. 411.



- CUTTER, W. D., and W. J. GIES.** The composition of tendon mucoid, 1901, VI, p. 155.
- CUTTER, W. D., and P. K. GILMAN.** The survival of irritability in mammalian nerves after removal from the body, 1904, X, p. xi.
- CUTTER, W. D.** See GIES and CUTTER, 1900, III, p. vi.

## D

- DANIEL, J. F.** The adjustment of *Paramecium* to distilled water and its bearing on the problem of the necessary inorganic salt content, 1908, XXIII, p. 48.
- DAVIS, B. F., and A. J. CARLSON.** Contribution to the physiology of lymph. IX. — Notes on the leucocytes in the neck lymph, thoracic lymph, and blood of normal dogs, 1900, XXV, p. 173.
- DAVIS, D.** The intravenous injection of thrombin, 1911, XXIX, p. 160.
- DAWSON, J.** Some physical reactions of *Physa*, 1907, XVIII, p. xiii.
- DAWSON, P. M.** Effect of intravenous infusion of sodium bicarbonate after severe hemorrhage, 1904, X, p. xxxv.
- Effects of venous hæmorrhage and intravenous infusion in dogs, 1900, IV, 1.
- Infusion after severe hemorrhage, 1900, III, p. xxviii.
- The lateral blood "pressures" at different points of the arterial tree, 1906, XV, p. 244.
- DAWSON, P. M., and E. N. RIGGINS.** An attempt to obtain regeneration of the spinal cord, 1902, VI, p. xxi.
- DAY, H. F.** See CANNON and DAY, 1903, VIII, p. xxviii.
- See CANNON and DAY, 1903, IX, p. 396.
- DEAN, A. L.** See HENDERSON and DEAN, 1903, IX, p. 386.
- DEARBORN, G. V. N.** Notes on the individual psychophysiology of the crayfish, 1900, III, p. 404.
- DEASON, J., and L. G. ROBB.** On the pathways for the bulbar respiratory impulses in the spinal cord, 1911, XXVIII, p. 57.
- DE LA PAZ, D.** See CANNON and DE LA PAZ, 1911, XXVIII, p. 64.
- DELLINGER, O. P.** The cilium studied comparatively as a key to the structure of contractile protoplasm, 1908, XXI, p. xi.
- DELLINGER, O. P.** (reported by C. F. HODGE). Movements of *amœbæ* and allied forms, 1906, XV, p. xvi.
- See HODGE and DELLINGER, 1907, XVIII, p. xi.
- See HODGE, GIBBS, and DELLINGER, 1908, XXI, p. xxv.
- DENIS, W.** The rate of diffusion of the inorganic salts of the blood into solutions of non-electrolytes, and its bearing on the theories of the immediate stimulus to the heart rhythm, 1906, XVII, p. 35.
- DEWEY, S. L.** See KEMP and DEWEY, 1900, IV, p. viii.
- DIEFENDORF, A. R.** See BENEDICT and DIEFENDORF, 1907, XVIII, p. 362.

- DODGE, R.** Five types of eye movement in the horizontal meridian plane of the field of regard, 1903, **VIII**, p. 307.
- DOLLEY, D. H.** The neurocytological reaction in muscular exertion. I.—Preliminary communication. The sequence of the immediate changes in the Purkinje cells, 1909, **XXV**, p. 151.
- DONALDSON, H. H.** Dr. Hatai's observations on the effect of lecithin on the growth of the nervous system of the white rat, 1903, **IX**, p. xviii.  
The formula for determining the weight of the central nervous system in frogs of different sizes, 1902, **VI**, p. xxvi.  
The functional significance of the size and shape of the neurone, 1900, **IV**, p. vi.  
On the decrease in the proportion of water in the central nervous system of the growing white rat, 1900, **IV**, p. v.
- DRENNAN, F. M.** The presence of the internal secretion of the pancreas in the blood, 1911, **XXVIII**, p. 396.  
*See* CARLSON and DRENNAN, 1911, **XXVIII**, p. 391.
- DRESBACH, M.** Observations upon the blood pressure of the sheep, 1910, **XXV**, pp. 433, xvii.
- DREYER, G. P.** An arterial cannula and other new physiological apparatus, 1902, **VI**, p. xxvi.  
On secretory nerves to the suprarenal capsules, 1899, **II**, p. 203.
- DRYFUSS, B. J., and C. G. L. WOLF.** The physiological action of lanthanum, praseodymium, and neodymium, 1906, **XVI**, p. 314.
- DUKE, W. W.** *See* HOWELL and DUKE, 1908, **XXI**, p. 51.  
*See* HOWELL and DUKE, 1908, **XXIII**, p. 174.
- DUNLAP, K.** Palmesthetic difference sensibility for rate, 1911, **XXIX**, p. 108.

## E.

- EDMUNDS, C. W.** The influence of digitalis, strophanthus, and adrenalin upon the velocity of the blood current, 1907, **XVIII**, p. 129.  
On the action of lobeline, 1904, **XI**, p. 79.
- EDMUNDS, C. W., and G. B. ROTH.** Action of barium chloride on the fowl's muscle, 1908, **XXIII**, p. 46.  
Concerning the action of curara and physostigmine upon nerve endings or muscles, 1908, **XXIII**, p. 28.  
The relation of curara to "nerve ending" and "receptive substance," 1908, **XXI**, p. xxvi.
- EDWARDS, C. L.** The physiological zero and the index of development for the egg of the domestic fowl, *Gallus domesticus*. A contribution to the subject of the influence of temperature on growth, 1902, **VI**, p. 351.
- EDWARDS, G. H.** *See* HENDERSON and EDWARDS, 1902, **VI**, p. xxii.  
*See* HENDERSON and EDWARDS, 1903, **IX**, p. 417.
- EGGERS, H. E.** The rhythm of the turtle's sinus venosus in isotonic solutions of non-electrolytes, 1907, **XVIII**, p. 64.



- EISENBREY, A. B.** See PEARCE and EISENBREY, 1910, **XXVI**, p. 26.
- ELLIS, F. W.** Studies in the physiology and psychology of visual sensations and perceptions, 1901, **V**, p. 462.
- EMERSON, H.** (reported by F. S. LEE). Demonstration of a new water manometer, 1905, **XIII**, p. xxxvii.
- EMERY, A. G., and F. G. BENEDICT.** The heat of combustion of compounds of physiological importance, 1911, **XXVIII**, p. 301.
- EMMES, L. E., and J. A. RICHE.** The respiratory exchange as affected by body position, 1911, **XXVII**, p. 406.
- EMMES, L. E.** See BENEDICT and EMMES, 1912, **XXX**, p. 197.  
See BENEDICT, EMMES, and RICHE, 1911, **XXVII**, p. 383.  
See BENEDICT, RICHE, and EMMES, 1910, **XXVI**, p. 1.
- EMMETT, A. D., and W. J. GIES.** On the chemical relation of collagen to gelatin, 1907, **XIX**, p. xi.
- ERLANGER, J.** Can functional union be re-established between the mammalian auricles and ventricles after the destruction of a segment of the auriculo-ventricular bundle? 1909, **XXIV**, p. 375.  
Demonstration of heart-block in the dog, 1906, **XV**, p. xxxi.  
Further studies on the physiology of heart block.—The effects of extra systoles upon the dog's heart and upon strips of terrapin's ventricle in the various stages of block, 1906, **XVI**, p. 160.  
An instance of complete "heart-block" in man, 1905, **XIII**, p. xxvi.  
Mammalian heart strips together with a theory of cardiac inhibition, 1910, **XXV**, p. xvi.  
A method of studying the physiology of mammalian heart tissue, 1909, **XXIII**, pp. xxxiii, xxxvii.  
A new criterion for the determination of the systolic blood pressure with the sphygmomanometer (with demonstration), 1908, **XXI**, p. xxiv.  
A new instrument for determining systolic and diastolic blood pressure in man, 1902, **VI**, p. xxii.  
Observations on auricular strips of the cat's heart, 1910, **XXVII**, p. 87.  
Observations on the physiology of Purkinje tissue, 1912, **XXIX**, pp. xxv, xxx, 395.  
On the union of a spinal nerve with the vagus nerve, 1905, **XIII**, p. 372.  
A study of the errors involved in the determination of the blood-pressures in man, together with a demonstration of the improvements in the sphygmomanometer thereby suggested, 1904, **X**, p. xiv.
- ERLANGER, J., and J. R. BLACKMAN.** A study of relative rhythmicity and conductivity in various regions of the auricles of the mammalian heart, 1907, **XIX**, p. 125.
- ERLANGER, J., J. R. BLACKMAN, and E. K. CULLEN.** Further studies in the physiology of heart block in mammals. Chronic auriculo-ventricular heart block in the dog, 1908, **XXI**, p. xviii.
- ERLANGER, J., and A. W. HEWLETT.** A study of the metabolism in dogs with shortened small intestines, 1901, **VI**, p. 1.

- ERLANGER, J., and A. D. HIRSCHFELDER.** Further studies on the physiology of heart-block in mammals, 1906, **XV**, p. 153.
- ERLANGER, J., and D. R. HOOKER.** The relation between blood-pressure, pulse-pressure, and the velocity of blood-flow in man, 1904, **X**, p. xv.  
The relation of blood-pressure and pulse-pressure to the secretion of urine and to the secretion of albumin in a case of so-called physiological albuminuria, 1904, **X**, p. xvi.
- ESTERLY, C. O.** The reactions of cyclops to light and gravity, 1907, **XVIII**, p. 47.
- EUSTIS, A. C.** See CHITTENDEN and EUSTIS, 1900, **III**, p. xxxi.
- EVERINGHAM, S.** See LEE and EVERINGHAM, 1909, **XXIII**, p. xxxvii.  
See LEE and EVERINGHAM, 1909, **XXIV**, p. 384.
- EWING, E. M., and H. C. JACKSON.** A study of the second positive and second negative waves of the venous pulse, 1912, **XXIX**, p. xx.
- EYSTER, J. A. E., C. R. AUSTRIAN, and C. R. KINGSLEY.** Concerning the effect of changes of blood pressure produced by temporary occlusion of the aorta upon respiratory activity, 1907, **XVIII**, p. 413.
- EYSTER, J. A. E., and D. R. HOOKER.** Direct and reflex response of the cardio-inhibitory centre to increased blood pressure, 1908, **XXI**, p. 373.  
Vagus inhibition from rise of pressure in the aorta, 1907, **XIX**, p. xii.
- EYSTER, J. A. E., and H. E. JORDAN.** Effect of intravenous injection of extracts of the pineal body, 1911, **XXVII**, p. xxiii.
- EYSTER, J. A. E.** See HIRSCHFELDER and EYSTER, 1907, **XVIII**, p. 222.  
See HOOKER and EYSTER, 1909, **XXIII**, p. xxxvii.  
See JORDAN and EYSTER, 1911, **XXIX**, p. 115.  
See MEEK and EYSTER, 1912, **XXX**, p. 271.

## F

- FAYERWEATHER, R.** See BRUSH and FAYERWEATHER, 1901, **V**, pp. 199, iii.
- FERREE, C. E., and GERTRUDE RAND.** The spatial values of the visual field immediately surrounding the blind spot and the question of the associative filling in of the blind spot, 1912, **XXIX**, p. 398.
- FERRIS, S. J., and G. LUSK.** The gastric inversion of cane-sugar by hydrochloric acid, 1898, **I**, p. 277.
- FISCHER, M. H.** Artificial parthenogenesis in Nereis, 1903, **IX**, p. 100.  
Does an antagonism exist between alkaloids and salts? 1904, **X**, p. 345.  
Further experiments on artificial parthenogenesis in annelids, 1902, **VII**, p. 301.  
How long does (Arbacia) sperm live in sea-water? 1903, **VIII**, p. 430.
- FISCHER, M. H., and GERTRUDE MOORE.** On glycosuria and the alimentary excretion of carbohydrates, 1907, **XIX**, p. 314.  
On the swelling of fibrin, 1907, **XX**, p. 330.
- FISH, P. A.** The exchange of air in the Eustachian or guttural pouches of the horse, 1910, **XXVI**, p. 229.

- FISHER, I.** A new method for indicating food values, 1906, **XV**, p. 417.
- FISHER, L.** A demonstration of apparatus, 1906, **XV**, p. xxxii.
- FISHMAN, C.** See HALE and FISHMAN, 1908, **XXII**, p. 32.
- FITZ, G. W.** The constants of pupillary reaction. (A preliminary report of experimentation with the shadow pupillometer), 1911, **XXVII**, p. xxviii.
- A new chronoscope, 1899, **II**, p. xiv.
- A shadow pupillometer for the accurate study of pupillary reactions, 1911, **XXVII**, p. xiv.
- FITZ, G. W., and F. W. HUTCHINGS.** A study of the seasonal variations of growth in weight of children, 1901, **V**, p. xvii.
- FITZ, R., C. L. ALSBERG, and L. J. HENDERSON.** Concerning the excretion of phosphoric acid during experimental acidosis in rabbits, 1907, **XVIII**, p. 113.
- FJELDSTAD, C. A.** The effect of thyroidectomy on the development of active immunity in rabbits, 1910, **XXVI**, p. 72.
- FLEISHER, M. S., and L. LOEB.** The absorption of fluid from the peritoneal cavity, 1910, **XXV**, p. xv.
- FOLIN, O.** The acidity of urine, 1903, **IX**, p. 265.
- Approximately complete analyses of thirty "normal" urines, 1905, **XIII**, p. 45.
- Laws governing the chemical composition of urine, 1905, **XIII**, p. 66.
- The nitrogen of urine; its distribution among the four important constituents — urea, ammonia, uric acid, kreatinin, 1905, **XIII**, p. xxxvii.
- On rigor mortis, 1903, **IX**, p. 374.
- On the quantitative determination of total sulphates in urine, 1902, **VII**, p. 152.
- Protein metabolism in fasting, 1908, **XXI**, p. xxv.
- A theory of protein metabolism, 1905, **XIII**, p. 117.
- FOLIN, O., and P. A. SHAFFER.** On phosphate metabolism, 1902, **VII**, p. 135.
- FOLIN, O.** See ALSBERG and FOLIN, 1905, **XIV**, p. 54.
- FRANK, R. T.** A note on the electric conductivity of blood during coagulation, 1905, **XIV**, p. 466.
- FRANZ, S. I.** The frontal lobes (cerebral) and the formation and retention of associations, 1902, **VI**, p. xxvii.
- On the functions of the cerebrum: concerning the lateral portions of the occipital lobes, 1911, **XXVIII**, p. 308.
- On the functions of the cerebrum: I. — The frontal lobes in relation to the production and retention of simple sensory-motor habits, 1902, **VIII**, p. 1.
- On the methods of estimating the force of voluntary muscular contractions and on fatigue, 1900, **IV**, p. 348.
- The physiological study of a case of migraine, 1907, **XIX**, p. 14.
- Sensibility of the hairs following nerve division, 1909, **XXIII**, p. xxii.
- Temperature sensations following nerve division, 1909, **XXIII**, p. xxii.

- FRANZ, S. I., and W. C. RUEDIGER.** Sensory changes in the skin following the application of local anesthetics and other agents. I. — Ethyl chloride, 1910, **XXVII**, p. 45.
- FRENCH, H. E.** The comparative toxicity of different animal tissues to animals susceptible to thyroid feeding, 1912, **XXX**, p. 56.
- FRIED, G. A., and W. J. GIES.** Does muscle contain mucin? 1901, **V**, p. x.
- FRIES, J. A.** Intestinal gases of man, 1906, **XVI**, p. 468.
- FRISBIE, W. S.** See CLOWES and FRISBIE, 1905, **XIV**, p. 173.
- FROTHINGHAM, C., Jr., and G. R. MINOT.** Normal temperature of rabbits, 1912, **XXX**, p. 430.
- FROTHINGHAM, C., Jr.** See PORTER, FROTHINGHAM, and LADD, 1904, **X**, p. xvi.
- FULLER, J. G.** See HART, MCCOLLUM and FULLER, 1909, **XXIII**, p. 246.

## G

- GALLOWAY, T. C., Jr.** See OTTEN and GALLOWAY, 1910, **XXVI**, p. 347.
- GAMGEE, A., and W. JONES.** On the nucleo-proteids of the pancreas, thymus, and suprarenal gland, with especial reference to their optical activity, 1903, **VIII**, pp. 447, xli.
- GARDNER, V.** See STOOKEY and GARDNER, 1908, **XXI**, p. xxv.
- GARREY, W. E.** Compression of the cardiac nerves of *Limulus*, and some analogies which apply to the mechanism of heart block, 1912, **XXX**, p. 283.
- Dissociation of inhibitory nerve impulses from normal conduction in the heart by means of compression, 1911, **XXVIII**, p. 249.
- The effects of ions upon the aggregation of flagellated infusoria, 1900, **III**, p. 291.
- Effects of the vagi upon heart block and ventricular rate, 1912, **XXX**, p. 451.
- Heart block produced by compressing the heart nerves of *Limulus polyphemus*, 1912, **XXIX**, p. xxi.
- Rhythmicity in the turtle's heart and comparison of action of the two vagus nerves, 1911, **XXVIII**, p. 330.
- Some effects of cardiac nerves upon ventricular fibrillation, 1908, **XXI**, p. 283.
- Twitchings of skeletal muscles produced by salt-solutions with special reference to twitchings of mammalian muscles, 1905, **XIII**, p. 186.
- GESELL, R. A.** Auricular systole and its relation to ventricular output, 1911, **XXIX**, p. 32.
- GIBBS, D.** See HODGE, GIBBS, and DELLINGER, 1908, **XXI**, p. xxv.
- GIBSON, R. B.** Observations on the urine of the muskrat (*Fiber zibethicus*), 1903, **IX**, p. 391.
- See MENDEL and GIBSON, 1904, **X**, p. xxix.
- See MENDEL and GIBSON, 1907, **XVIII**, p. 201.

- GIES, W. J.** Do spermatozoa contain enzyme having the power of causing development of mature ova? 1901, **VI**, p. 53.  
Further mucoid studies, 1903, **VIII**, p. xiii.  
Improved cage and diet for use in metabolism experiments on dogs, 1904, **X**, p. xxii.  
An improved cage for metabolism experiments, 1905, **XIV**, p. 403.  
An improved method of preparing and preserving meat for use in metabolism experiments, 1901, **V**, p. 235.  
The influence of the H ion in peptic proteolysis, 1903, **VIII**, p. xxxiv.  
A note on the excretion of kynurenic acid, 1901, **V**, p. 191.  
On the irritability of the brain during anaemia, 1903, **IX**, p. 131.  
Peptic proteolysis in acid solutions of equal conductivity, 1903, **IX**, p. xvii.  
The preparation of a mucin-like substance from bone, 1900, **III**, p. vii.  
A proteid reaction involving the use of chromate, 1903, **VIII**, p. xv.
- GIES, W. J., and L. ASHER.** The influence of protoplasmic poisons on the formation of lymph, 1900, **III**, p. xix.
- GIES, W. J., and W. D. CUTTER.** The gluco-proteids of white fibrous connective tissue, 1900, **III**, p. vi.
- GIES, W. J., and L. D. MEAD.** The physiological action of tellurium compounds, 1900, **III**, p. xx.
- GIES, W. J., and S. J. MELTZER.** Studies on the influence of artificial respiration upon strychnine spasms and respiratory movements, 1903, **IX**, p. 1.
- GIES, W. J., and A. N. RICHARDS.** A preliminary study of the coagulable proteids of connective tissues, 1900, **III**, p. v.
- GIES, W. J.** See **BUERGER** and **GIES**, 1901, **VI**, p. 219.  
See **CHACE** and **GIES**, 1907, **XVIII**, p. 457.  
See **CHITTENDEN** and **GIES**, 1898, **I**, p. 1.  
See **CUTTER** and **GIES**, 1901, **VI**, p. 155.  
See **FRIED** and **GIES**, 1901, **V**, p. x.  
See **HAWK** and **GIES**, 1901, **V**, pp. 387, xv.  
See **HAWK** and **GIES**, 1902, **VI**, p. xxvii.  
See **HAWK** and **GIES**, 1902, **VII**, pp. 340, 460.  
See **HAWK** and **GIES**, 1904, **X**, p. xxviii.  
See **HAWK** and **GIES**, 1904, **XI**, p. 171.  
See **HOUSE** and **GIES**, 1906, **XV**, p. xix.  
See **KIRKWOOD** and **GIES**, 1901, **V**, p. xiv.  
See **LESEM** and **GIES**, 1902, **VIII**, p. 183.  
See **LOEB** and **GIES**, 1903, **VIII**, p. xiv.  
See **MEAD** and **GIES**, 1901, **V**, p. 104.  
See **MEAD** and **GIES**, 1902, **VI**, p. xxviii.  
See **MELTZER** and **GIES**, 1903, **VIII**, p. xlii.  
See **MEYER** and **GIES**, 1905, **XIII**, p. xxxiii.  
See **POSNER** and **GIES**, 1902, **VI**, p. xxix.  
See **POSNER** and **GIES**, 1902, **VII**, p. 331.  
See **POSNER** and **GIES**, 1904, **X**, p. xxxi.

## GIES, W. J.

See POSNER and GIES, 1904, **XI**, pp. 330, 404.

See POSNER and GIES, 1905, **XIII**, p. xxxv.

See RICHARDS and GIES, 1901, **V**, p. xi.

See RICHARDS and GIES, 1902, **VII**, p. 93.

See RUSSELL and GIES, 1906, **XV**, p. xxiii.

See SEIFERT and GIES, 1903, **X**, p. 146.

See STEEL and GIES, 1907, **XX**, pp. 343, 378.

See TALTAVALI and GIES, 1903, **IX**, p. xvi.

See VANDEGRIFT and GIES, 1901, **V**, p. 287.

See WOODRUFF and GIES, 1902, **VI**, p. xxix.

GILBERT, R. D. See OSBORNE and GILBERT, 1906, **XV**, p. 333.

GILMAN, P. K., and F. H. BAETJER. Some effects of the Röntgen rays on the development of embryos, 1904, **X**, p. 222.

GILMAN, P. K. See CUTTER and GILMAN, 1904, **X**, p. xi.

GITHENS, T. S., and S. J. MELTZER. The effect of the removal of the heart upon the appearance of convulsions in frogs, 1912, **XXIX**, p. xxxiv.

GIVENS, M. H. See HUNTER and GIVENS, 1911, **XXVII**, p. xv.

GODDARD, H. H. See HODGE and GODDARD, 1899, **II**, pp. xiii, xix.

GOETSCH, E. See CUSHING and GOETSCH, 1910, **XXVII**, p. 60.

GOLDTHWAIT, J. E., C. F. PAINTER, R. B. OSGOOD, and F. H. McCRUD-DEN. A study of the metabolism in osteomalacia, 1905, **XIV**, p. 389.

GOOD, C. A. The excretion of lithium, 1902, **VI**, p. xx.

GOODMAN, J. M. On the connective tissue in muscle, 1900, **IV**, p. 260.

GOODSON, W. H. See KOCH and GOODSON, 1906, **XV**, p. 272.

GORHAM, F. P., and R. W. TOWER. Does potassium cyanide prolong the life of the unfertilized egg of the sea-urchin? 1902, **VIII**, p. 175.

GORHAM, L. W., and A. W. MORRISON. The action of the proteins of blood upon the isolated mammalian heart, 1910, **XXV**, p. 419.

GOULD, L. K., and A. J. CARLSON. Further studies on the relation of the pancreas to the serum and lymph diastases, 1911, **XXIX**, p. 165.

GREELEY, A. W. Artificial parthenogenesis in starfish produced by a lowering of temperature, 1902, **VI**, p. 206.

On the analogy between the effects of loss of water and lowering of temperature, 1901, **VI**, p. 122.

GREEN, J., Jr. See BUDGETT and GREEN, 1899, **III**, p. 115.

GREEN, J. R. Contributions to the physiology of lymph. XII. — Methods of inducing the appearance of polymorphonuclear leucocytes in the lymph, 1910, **XXVI**, p. 68.

GREENE, C. W. The absorption of fat by the salmon stomach, 1912, **XXIX**, p. xxxvi; **XXX**, p. 278.

The absorption of fat in the salmon muscular tissue and its resorption during the migration fast, 1912, **XXIX**, p. xxxix.

Arterial blood pressure in the Sacramento salmon, *Oncorhynchus tshawtscha*, 1903, **VIII**, p. xlii.

**GREENE, C. W.**

Contributions to the physiology of the California hagfish, *Polistotrema stouti*. I. — The anatomy and physiology of the caudal heart, 1900, **III**, p. 366.

Contributions to the physiology of the California hagfish, *Polistotrema stouti*. II. — The absence of regulative nerves for the systemic heart, 1902, **VI**, p. 318.

Notes on the physiology of the circulatory system of the California hagfish, *Polistotrema stouti*, 1902, **VI**, p. xii.

On the relation between the external stimulus applied to a nerve and the resulting nerve impulse as measured by the action current, 1898, **I**, p. 104.

On the relation of the inorganic salts of blood to the automatic activity of a strip of ventricular muscle, 1898, **II**, p. 82.

Osmotic changes in the Sacramento salmon during the run from the sea to the spawning beds, 1903, **VIII**, p. xlii.

**GREENE, C. W., and W. F. SKAER.** Absorption of fat by the mammalian stomach, 1912, **XXIX**, p. xxxvii.

**GREENWALD, I.** The effect of parathyroidectomy upon metabolism, 1911, **XXVIII**, p. 103.

**GREER, J. R.** On the composition of normal lymph from the neck lymphatics of the horse, 1908, **XXI**, p. xxv.

**GREER, J. R., and F. C. BECHT.** A study of the concentration of antibodies in the body fluids of normal and immune animals, 1910, **XXV**, p. 292.

**GREER, J. R.** See CARLSON, GREER, and BECHT, 1907, **XIX**, p. 360.

See CARLSON, GREER, and BECHT, 1907, **XX**, p. 180.

See CARLSON, GREER, and BECHT, 1908, **XXI**, p. xxvi.

See CARLSON, GREER, and BECHT, 1908, **XXII**, p. 104.

See CARLSON, GREER, and LUCKHARDT, 1908, **XXII**, p. 91.

See MURLIN and GREER, 1911, **XXVII**, p. xviii.

**GUENTHER, A. E.** A study of the comparative effects of solutions of potassium, sodium, and calcium chlorides on skeletal and heart muscle, 1905, **XIV**, p. 73.

See LOMBARD and GUENTHER, 1900, **IV**, p. iii.

**GUTHRIE, C. C.** The effect of the intravenous injection of formaldehyde and calcium chloride on the hæmolytic power of serum, 1904, **XII**, p. 139.

Further results on heterotransplantation of blood vessels, 1908, **XXI**, p. xvii.

Heterotransplantations of blood vessels, 1907, **XIX**, p. 482.

The influence of formaldehyde on the action of certain laking agents and on coagulation of blood, 1903, **IX**, p. 187.

The laking of dried red blood-corpuscles, 1903, **VIII**, pp. 441, xliii.

Results of removal and transplantation of ovaries in chickens, 1907, **XIX**, p. xvi.

Survival of tissues and organs under perfusion, 1908, **XXI**, p. xvi.

**GUTHRIE, C. C., and F. H. PIKE.** The effect of changes in blood pressure on respiratory movements, 1906, **XVI**, p. 475.



**GUTHRIE, C. C., and F. H. PIKE.**

Further observations on the relation between blood pressure and respiratory movements, 1908, **XX**, p. 451.

The relation of the activity of the excised mammalian heart to pressure in the coronary vessels and to its nutrition, 1907, **XVIII**, p. 14.

**GUTHRIE, C. C., F. H. PIKE, and G. N. STEWART.** The maintenance of cerebral activity in mammals by artificial circulation, 1906, **XVII**, p. 344.**GUTHRIE, C. C., and A. H. RYAN.** On the alleged specific anæsthetic properties of magnesium salts, 1910, **XXVI**, p. 329.**GUTHRIE, C. C.** See BROWN and GUTHRIE, 1905, **XIV**, p. 328.

See PIKE, GUTHRIE, and STEWART, 1908, **XXI**, p. 359.

See PIKE, GUTHRIE, and STEWART, 1908, **XXII**, p. 51.

See RYAN and GUTHRIE, 1908, **XXII**, p. 440.

**H****HADLEY, P. B.** Galvanotaxis in larvæ of the American lobster (*Homarus Americanus*), 1907, **XIX**, p. 39.

The reaction of blinded lobsters to light, 1908, **XXI**, p. 180.

The relation of optical stimuli to rheotaxis in the American lobster, *Homarus Americanus*, 1906, **XVII**, p. 326.

**HAGAN, H. H., and J. K. ORMOND.** The relation of calcium to the cardio-inhibitory function of the vagus, 1912, **XXIX**, pp. xi, xxx, 105.**HALE, W.** The action of the alkaloids of the *Papaveraceæ* upon the isolated frog's heart, 1909, **XXIII**, p. 389.

The action of the alkaloids of the *Papaveraceæ* upon the motor nerve endings, 1909, **XXIII**, p. 408.

**HALE, W., and C. FISHMAN.** The excretion of bromides by the kidney, 1908, **XXII**, p. 32.**HALL, G. W.** Concerning glycolysis, 1907, **XVIII**, p. 283.**HALL, L. D.** See KEMP and HALL, 1907, **XVIII**, p. xix.**HALL, W. S.** A new form of ergograph, 1902, **VI**, p. xxiii.

Observations on human chyle, 1908, **XXI**, p. xxvi.

**HALLOCK, W.** (with F. S. MUCKEY). The action of the larynx in the production of voice, 1898, **I**, p. vi.**HALSEY, J. T.** Concerning the formation of sugar from leucin, 1904, **X**, p. 229.

Studies in diuresis, 1902, **VI**, p. xvi.

**HAMBURGER, W. W.** The action of intravenous injections of glandular extracts and other substances upon the blood pressure, 1904, **XI**, p. 282.

The action of extracts of the anterior lobe of the pituitary gland upon the blood pressure, 1910, **XXVI**, p. 178.

**HANFORD, G. A.** The influence of acids on the amylolytic action of saliva, 1900, **IV**, p. 250.

A study of the physiological action and toxicology of cæsium chloride, 1903, **IX**, p. 214.



- HANZLIK, P. J.** See SOLLMANN and HANZLIK, 1912, **XXIX**, p. xxx.
- HARE, H. A.** Studies on the influence of strychnine on the spinal cord of rabbits, 1901, **V**, p. 333.
- HARRINGTON, D. W.** Contributions to the physiology of the cardiac nerves in the guinea-pig, 1898, **I**, p. 383.
- HARRINGTON, N. R., and E. LEAMING.** The reaction of amoeba to lights of different colors, 1899, **III**, p. 9.
- HARRIS, I. F.** See OSBORNE and HARRIS, 1905, **XIII**, pp. 35, 436.  
See OSBORNE and HARRIS, 1905, **XIV**, p. 151.  
See OSBORNE and HARRIS, 1906, **XVII**, p. 223.  
See OSBORNE, MENDEL, and HARRIS, 1905, **XIV**, p. 259.
- HARROLD, C. C.** See LEE and HARROLD, 1900, **IV**, p. ix.
- HART, E. B., E. V. MCCOLLUM, and J. G. FULLER.** The rôle of inorganic phosphorus in the nutrition of animals, 1900, **XXIII**, p. 246.
- HART, E. B., E. V. MCCOLLUM, and G. C. HUMPHREY.** The rôle of the ash constituents of wheat bran in the metabolism of herbivora, 1909, **XXIV**, p. 86.
- HART, E. B.** See JORDAN, HART, and PATTEN, 1906, **XVI**, p. 268.
- HARVEY, S. C.** See HENDERSON, BARRINGER, and HARVEY, 1909, **XXIII**, p. xxx.
- HASKINS, H. D.** The effect of diuretics on the urine, with a diet poor in salts, 1904, **X**, p. 362.  
The identity of so-called ureine (Moor), 1904, **XII**, p. 162.  
Preliminary report of certain investigations as to the nature of peptones, 1908, **XXI**, p. xxv.  
See MACLEOD and HASKINS, 1905, **XII**, p. 444.  
See MACLEOD and HASKINS, 1905, **XIII**, p. xvii.
- HASTINGS, C. S.** On errors of eccentricity in the human eye, 1905, **XIII**, p. 304.
- HATAI, S.** Comparison of the nervous system in the normal albino rat with the nervous system in those experimentally stunted, 1908, **XXI**, p. xxvi.  
The effect of lecithin on the growth of the white rat, 1903, **X**, p. 57.  
Effect of partial starvation followed by a return to normal diet, on the growth of the body and central nervous system of albino rats, 1907, **XVIII**, p. 309.  
The effect of partial starvation on the brain of the white rat, 1904, **XII**, p. 116.  
The excretion of nitrogen by the white rat as affected by age and body weight, 1905, **XIV**, p. 120.  
Further investigations on the effect of partial starvation on the central nervous system of the white rat, 1906, **XV**, p. xxxi.
- HATCHER, R. A.** The absorption, excretion, and destruction of strophanthin, 1909, **XXIII**, pp. 303, xxxvii.  
The action of saline solutions on the vitality of blood vessels, 1906, **XV**, p. 144.  
The fate of strychnine in the intestine of the rabbit, 1904, **XII**, p. 237.  
Nicotine tolerance in rabbits, and the difference in the fatal dose in adult and young guinea-pigs, 1904, **XI**, p. 17.

- HATCHER, R. A., and T. SOLLMANN.** The effect of diminished excretion of sodium chloride on the constituents of the urine, 1902, **VIII**, p. 139.
- HATCHER, R. A.** See SOLLMANN and HATCHER, 1904, **X**, p. xxv.
- See SOLLMANN and HATCHER, 1908, **XXI**, p. 37.
- HATTREM, W. M., and P. B. HAWK.** On intestinal putrefaction during copious and moderate water drinking with meals, 1911, **XXVII**, p. xxv.
- HAWK, P. B.** The activity of the pancreatic function under the influence of copious water drinking with meals, 1911, **XXVII**, p. xxvi.
- Influence of rennin upon the digestion of the proteid constituents of milk, 1903, **X**, p. 37.
- On a series of feeding and injection experiments following the establishment of the Eck fistula in dogs, 1908, **XXI**, p. 259.
- On the influence of ether anaesthesia, 1904, **X**, p. xxxvii.
- On the leucomaïns of cod liver oil, 1908, **XXI**, p. xxii.
- On the morphological changes in the blood after muscular exercise, 1904, **X**, p. 384.
- On the time relations of proteid metabolism, 1903, **X**, p. 115.
- A study of the conditions following the establishment of the Eck fistula in dogs, 1905, **XIII**, p. xiv.
- HAWK, P. B., and J. S. CHAMBERLAIN.** A study of the variations in the course of the nitrogen, sulphate, and phosphate excretion, as observed in short periods following a small increase in the proteid ingested, 1904, **X**, p. 269.
- HAWK, P. B., and W. J. GIES.** Chemical studies of osseomucoid, with determinations of the heat of combustion of some connective tissue glucoproteids, 1901, **V**, p. 387.
- The composition and chemical qualities of the albumoid in bone, 1902, **VI**, p. xxvii.
- A further study of the glucoproteid in bone, 1901, **V**, p. xv.
- The influence of external hemorrhage on chemical changes in the organism, with particular reference to proteid catabolism, 1904, **XI**, p. 171.
- The influence of hemorrhage on proteid catabolism, 1904, **X**, p. xxviii.
- On the composition and chemical properties of osseoalbumoid, with a comparative study of the albumoid of cartilage, 1902, **VII**, p. 340.
- On the quantitative determination of acidalbumin in digestive mixtures, 1902, **VII**, p. 460.
- HAWK, P. B., and T. A. RUTHERFORD.** The comparative chemical composition of the hair of different races, 1906, **XV**, p. xxxi.
- HAWK, P. B.** See HATTREM and HAWK, 1911, **XXVII**, p. xxv.
- See HOWE and HAWK, 1912, **XXIX**, p. xiv.
- See HOWE and HAWK, 1912, **XXX**, p. 174.
- See ROSS and HAWK, 1912, **XXIX**, p. xvii.
- See SHERMAN and HAWK, 1900, **IV**, p. 25.
- See WILLS and HAWK, 1911, **XXVII**, p. xxxii.
- HAYHURST, E. R.** See KEMP and HAYHURST, 1906, **XV**, p. xxviii.

**HAYHURST, E. R.**

See KEMP, STANLEY, and HAYHURST, 1906, **XV**, p. xxxi.

**HEDBLUM, C. A.** See SCHNEIDER and HEDBLUM, 1908, **XXIII**, p. 90.**HEGEMAN, R. F.** See HOOKER, HEGEMAN, and ZARTMAN, 1909, **XXIII**, p. xi.**HEKTOEN, L., and A. J. CARLSON.** On the distribution of immune bodies in the body fluids of immune animals, 1910, **XXV**, p. xix.**HEMMETER, J. C.** An improved operative method of forming an accessory (Pawlow) stomach in the dog, 1906, **XVII**, p. 321.**HENDERSON, L. J.** Concerning the relationship between the strength of acids and their capacity to preserve neutrality, 1908, **XXI**, p. 173.

Equilibrium in solutions of phosphates, 1906, **XV**, p. 257.

Note on equilibrium in solutions of phosphates, 1906, **XVI**, p. 188.

A note on the union of the proteins of serum with alkali, 1908, **XXI**, p. 169.

The theory of neutrality regulation in the animal organism, 1908, **XXI**, p. 427.

**HENDERSON, L. J., and O. F. BLACK.** Concerning the neutrality of protoplasm, 1907, **XVIII**, p. 250.

A study of the equilibrium between carbonic acid, sodium bicarbonate, mono-sodium phosphate, and di-sodium phosphate at body temperature, 1908, **XXI**, p. 420.

**HENDERSON, L. J., and F. N. BRINK.** The compressibilities of gelatine solutions and of muscle, 1908, **XXI**, p. 248.**HENDERSON, L. J., G. A. LELAND, Jr., and J. H. MEANS.** The behavior of muscle after compression, 1908, **XXII**, p. 48.**HENDERSON, L. J.** See FITZ, ALSBERG, and HENDERSON, 1907, **XVIII**, p. 113.**HENDERSON, V. E.** The teaching of physiology in the laboratory, 1907, **XIX**, p. xix.**HENDERSON, Y.** Acapnia and shock. I.—Carbon dioxide as a factor in the regulation of the heart rate, 1908, **XXI**, p. 126.

Acapnia and shock. II.—A principle underlying the normal variations in the volume of the blood stream, and the deviation from this principle in shock, 1909, **XXIII**, p. 345.

Acapnia and shock. III.—Shock after laparotomy; its prevention, production, and relief, 1909, **XXIV**, p. 66.

Acapnia and shock. IV.—Fatal apnoea after excessive respiration, 1910, **XXV**, p. 310.

Acapnia and shock. V.—Failure of respiration after intense pain, 1910, **XXV**, p. 385.

**HENDERSON, Y., and M. McR. SCARBROUGH.** Acapnia and shock. VI.—Acapnia as a factor in the dangers of anaesthesia, 1910, **XXVI**, p. 260.**HENDERSON, Y.** Acapnia and shock. VII.—Failure of the circulation, 1910, **XXVII**, p. 152.

Artificial regulation of the heart rate, 1907, **XVIII**, p. xv.

The cause and phenomena of surgical shock, 1906, **XV**, pp. xviii, xxxi.

Demonstration of working models of the circulation, 1904, **X**, p. xxiii.

**HENDERSON, Y.**

A diagram of the normal behavior of the heart at all rates of beat, 1909, **XXIII**, p. xxxvii.

The events within the heart, 1905, **XIII**, p. xxv.

The mass-movements of the circulation as shown by a recoil curve, 1905, **XIV**, p. 287.

Metabolism in the submaxillary gland during rest and activity, 1899, **III**, p. 19.

An observation on the chemical regulation of respiration, 1910, **XXV**, p. xii.

Production of shock by loss of carbon dioxide, and relief by partial asphyxiation, 1907, **XIX**, p. xiv.

The volume curve of the ventricles of the mammalian heart, and the significance of this curve in respect to the mechanics of the heart beat and the filling of the ventricles, 1906, **XVI**, p. 325.

**HENDERSON, Y., T. B. BARRINGER, and S. C. HARVEY.** The regulation of venous pressure and its relation to shock, 1900, **XXIII**, p. xxx.

**HENDERSON, Y., and E. F. CROFUTT.** Observations on the fate of oil injected subcutaneously, 1905, **XIV**, p. 193.

**HENDERSON, Y., and A. L. DEAN.** On the question of proteid synthesis in the animal body, 1903, **IX**, p. 386.

**HENDERSON, Y., and G. H. EDWARDS.** Nuclein metabolism in lymphatic leukæmia, 1903, **IX**, p. 417.

A study of metabolism in a case of lymphatic leukæmia, 1902, **VI**, p. xxii.

**HENDERSON, Y., and M. McR. SCARBROUGH.** The volume-curve of the mammalian ventricle (illustrated), 1905, **XIII**, p. xxiv.

**HENDERSON, Y., and D. G. RUSSELL.** A simple method for determining the carbon dioxide content of the alveolar air by means of baryta, 1912, **XXIX**, p. 436.

**HENDERSON, Y., and F. P. UNDERHILL.** Acapnia and glycosuria, 1911, **XXVIII**, p. 275.

**HENDERSON, Y.** See CHITTENDEN and HENDERSON, 1900, **III**, p. xxx.

See CHITTENDEN, MENDEL, and HENDERSON, 1899, **II**, p. 142.

See SCARBROUGH and HENDERSON, 1910, **XXV**, p. xiii.

**HERRICK, J. C.** The influence of changes in temperature upon nervous conductivity as studied by the galvanometric method, 1900, **IV**, p. 301.

**HERTER, C. A.** The influence of fever on the reducing action of the animal organism, 1905, **XII**, p. 457.

On the reducing action of the animal organism under the influence of cold, 1904, **XII**, p. 128.

**HERTER, C. A., and A. N. RICHARDS.** The influence of chloroform on intravital staining with methylene-blue, 1904, **XII**, p. 207.

**HEWLETT, A. W.** The effect of varying room temperatures upon the peripheral blood flow, 1910, **XXV**, p. xviii.

See ERLANGER and HEWLETT, 1901, **VI**, p. 1.

**HEYL, F. W.** See OSBORNE and HEYL, 1908, **XXI**, pp. 157, xxi.

**HEYL, F. W.**

See OSBORNE and HEYL, 1908, **XXII**, pp. 362, 423, 433.

See OSBORNE and HEYL, 1908, **XXIII**, p. 81.

**HIGGINS, H. L.**, and **F. G. BENEDICT**. Some energy factors of the urine excreted after severe muscular exercise, 1911, **XXVIII**, p. 291.

**HIGGINS, H. L.** See **BENEDICT** and **HIGGINS**, 1911, **XXVIII**, p. 1.

See **BENEDICT** and **HIGGINS**, 1912, **XXX**, p. 217.

**HIGLEY, G. O.**, and **W. P. BOWEN**. Changes in the excretion of carbon dioxide resulting from bicycling, 1904, **XII**, p. 311.

**HILDITCH, W. W.** See **MENDEL** and **HILDITCH**, 1910, **XXV**, p. xi.

See **MENDEL** and **HILDITCH**, 1910, **XXVII**, p. 1.

See **UNDERHILL** and **HILDITCH**, 1909, **XXV**, p. 66.

**HILL, J. C.** See **MAXWELL** and **HILL**, 1902, **VII**, p. 409.

**HIRSCHFELDER, A. D.**, and **J. A. E. EYSTER**. Extrasystoles in the mammalian heart, 1907, **XVIII**, p. 222.

**HIRSCHFELDER, A. D.** See **ERLANGER** and **HIRSCHFELDER**, 1906, **XV**, p. 153.

**HODGE, C. F.** Influence of alcohol upon the young in dogs, and upon the severity of an attack of distemper, 1898, **I**, p. xv.

Influence of alcohol upon voluntary muscular power in conditions of fatigue, 1898, **I**, p. xv.

Sleep of infants, 1906, **XV**, p. xxxi.

**HODGE, C. F.**, and **O. P. DELLINGER**. Functions and structure in *Amœba proteus*, 1907, **XVIII**, p. xi.

**HODGE, C. F.**, **D. GIBBS**, and **O. P. DELLINGER**. Daily life of *Amœba proteus*, 1908, **XXI**, p. xxv.

**HODGE, C. F.**, and **H. H. GODDARD**. A new brain microtome, 1899, **II**, p. xix.

Possible amœboid movements of the dendritic processes of cortical nerve cells, 1899, **II**, p. xiii.

**HODGE, C. F.** (for **O. P. DELLINGER**). Movements of amœbæ and allied forms, 1906, **XV**, p. xvi.

**HOLMES, S. J.** Phototaxis in the Amphipoda, 1901, **V**, p. 211.

**HOLT, E. B.**, and **F. S. LEE**. The theory of phototactic response, 1901, **IV**, p. 460.

**HOMANS, J.** See **BENEDICT** and **HOMANS**, 1911, **XXVIII**, p. 29.

**HOOKE, D. R.** The chemical regulation of vascular tone as studied upon the perfused blood vessels of the frog, 1911, **XXVIII**, p. 361.

The effect of exercise upon the venous blood pressure, 1911, **XXVIII**, p. 235.

May reflex cardiac acceleration occur independently of the cardio-inhibitory centre? 1907, **XIX**, pp. xii, 417.

A study of the isolated kidney.—The influence of pulse pressure upon renal function, 1910, **XXVII**, p. 24.

**HOOKE, D. R.**, and **J. A. E. EYSTER**. An instrument for the determination of the venous pressure in man, 1909, **XXIII**, p. xxxvii.

- HOOKER, D. R., R. F. HEGEMAN, and L. V. ZARTMAN.** The relation of pulse pressure to the appearance of albumin in a case of orthostatic albuminuria, 1909, **XXIII**, p. xi.
- HOOKER, D. R. (with J. M. WOLFSOHN).** The effect of exercise upon the venous pressure, 1910, **XXV**, p. xxiv.
- HOOKER, D. R.** See BRUCE, MILLER, and HOOKER, 1909, **XXIV**, p. 104.  
 See ERLANGER and HOOKER, 1904, **X**, pp. xv, xvi.  
 See EYSTER and HOOKER, 1907, **XIX**, p. xii.  
 See EYSTER and HOOKER, 1908, **XXI**, p. 373.  
 See MENDEL and HOOKER, 1902, **VII**, p. 380.
- HOSKINS, R. G.** Congenital thyroidism: an experimental study of the thyroid in relation to other glands with internal secretion, 1910, **XXV**, p. xii.  
 Congenital thyroidism: an experimental study of the thyroid in relation to other organs of internal secretion, 1910, **XXVI**, p. 426.  
 The sthenic effect of epinephrin upon intestine, 1912, **XXIX**, p. 363.
- HOSKINS, R. G., and C. W. McCLURE.** The relation of the adrenal glands to blood pressure, 1912, **XXX**, p. 192.
- HOSKINS, R. G.** See CANNON and HOSKINS, 1911, **XXIX**, p. 274.
- HOUGH, T.** Certain improvements in the technique of ergographic work, 1900, **III**, p. ix.  
 Ergographic studies in muscular soreness, 1902, **VII**, p. 76.  
 Ergographic studies in neuro-muscular fatigue, 1901, **V**, p. 240.  
 The influence of increase of alveolar tension of oxygen on the respiratory rate and the volume of air respired while breathing a confined volume of air, 1910, **XXVI**, p. 156.  
 The influence of muscular activity upon the alveolar tensions of oxygen and of carbon dioxide, 1912, **XXX**, p. 18.  
 Variations in the response of healthy men to the dyspneic conditions produced by breathing a confined volume of air, 1911, **XXVIII**, p. 369.
- HOUGHTON, E. M.** An improved apparatus for recording the secretion of urine, 1906, **XV**, p. xxxii.  
 Pharmacology of ethyl salicylate, 1905, **XIII**, pp. 331, xxxvii.  
 A study of para-aeth-oxy-phenyl-camphoryl-imid (camphenal) as an anti-pyretic, 1906, **XV**, pp. 433, xxvi.
- HOUGHTON, E. M., and T. B. ALDRICH.** A preliminary report on the pharmacological and chemical properties of tri-brom-tertiary butyl-alcohol, 1903, **VIII**, p. xviii.
- HOUGHTON, E. M.** See ALDRICH and HOUGHTON, 1900, **III**, p. xxvi.
- HOUSE, H. D., and W. J. GIES.** The influence of aluminium ions on lupin seedlings, 1906, **XV**, p. xix.
- HOWE, P. E., and P. B. HAWK.** A comparison of the data from two fasts each exceeding one hundred days in length and made upon the same subject, 1912, **XXIX**, p. xiv.  
 Fasting studies. IX. — On the differential leucocyte count during prolonged fasting, 1912, **XXX**, p. 174.



- HOWELL, W. H.** An analysis of the influence of the sodium, potassium, and calcium salts of the blood on the automatic contractions of heart-muscle, 1901, **VI**, p. 181.  
The calcium and potassium metabolism of the heart during inhibition and acceleration or augmentation, 1907, **XIX**, p. xix.  
A convenient form of non-polarizable electrode, 1899, **II**, p. xx.  
The influence of high arterial pressures upon the blood-flow through the brain, 1898, **I**, p. 57.  
Note upon the presence of amido acids in the blood and lymph as determined by the  $\beta$  naphthalinsulphochloride reaction, 1906, **XVII**, p. 273.  
On the relation of the blood to the automaticity and sequence of the heart-beat, 1898, **II**, p. 47.  
The preparation and properties of thrombin, together with observations on antithrombin and prothrombin, 1910, **XXVI**, p. 453.  
The proteids of the blood with especial reference to the existence of a non-coagulable proteid, 1906, **XVII**, p. 280.  
The relation of cardiac inhibition to the inorganic constituents of the blood, 1906, **XV**, p. xiv.  
The rôle of antithrombin and thromboplastin (thromboplastic substance) in the coagulation of blood, 1911, **XXIX**, p. 187.  
The use of alkaline solutions in surgical shock, 1900, **IV**, p. xiv.  
Vagus inhibition of the heart in its relation to the inorganic salts of the blood, 1906, **XV**, p. 280.
- HOWELL, W. H., and M. F. AUSTIN.** The effect of stimulating various portions of the cortex cerebri, caudate nucleus, and dura mater upon blood pressure, 1900, **III**, p. xxii.
- HOWELL, W. H., and W. W. DUKE.** The effect of vagus inhibition on the output of potassium from the heart, 1908, **XXI**, pp. 51, xxv.  
Note upon the effect of stimulation of the accelerator nerve upon the calcium, potassium, and nitrogen metabolism of the isolated heart, 1908, **XXIII**, p. 174.
- HUBER, G. C.** Models of the kidney tubules, 1906, **XV**, p. xxxii.  
A note on sensory nerve-endings in the extrinsic eye-muscles of the rabbit — atypical motor-endings of Retzius, 1899, **II**, p. xvi.  
Methylene-blue preparation of sensory nerve-endings in tendon — Golgi's tendon corpuscles, 1899, **II**, p. xx.  
Observations on the degeneration and regeneration of motor and sensory nerve endings in voluntary muscle, 1900, **III**, pp. 339, xxxii.  
Observations on the innervation of the intracranial vessels, 1899, **II**, p. xii.
- HUGHES, W. T., and A. J. CARLSON.** The relative hemolytic power of serum and lymph under varying conditions of lymph formation, 1908, **XXI**, p. 236.
- HUMPHREY, G. C.** See HART, McCOLLUM, and HUMPHREY, 1909, **XXIV**, p. 86.
- HUNT, R.** Direct and reflex acceleration of the mammalian heart, 1899, **II**, p. ix.

**HUNT, R.**

Direct and reflex acceleration of the mammalian heart, with some observations on the relations of the inhibitory and accelerator nerves, 1899, **II**, p. 395.

Experiments with *Zygadenus venenosus* (poison camass), 1902, **VI**, p. xix.

Further observations on the blood-pressure-lowering bodies in extracts of the suprarenal gland, 1901, **V**, p. vi.

Note on a blood pressure lowering body in the suprarenal gland, 1900, **III**, p. xviii.

Notes on the thyroid, 1907, **XIX**, p. xix.

On the effects of intravenous injections of minimal doses of epinephrin sulphate upon the arterial blood pressure, 1901, **V**, p. vii.

**HUNTER, A., and M. H. GIVENS.** The allantoin-purin excretion of the monkey, 1911, **XXVII**, p. xv.

**HUNTER, G. W., Jr.** Notes on the heart action of *Molgula manhattensis* (Verrill), 1903, **X**, p. 1.

**HUNTER, S. J.** On the production of artificial parthenogenesis in *Arbacia* by the use of sea-water concentrated by evaporation, 1901, **VI**, p. 177.

**HUTCHINGS, F. W.** See FITZ and HUTCHINGS, 1901, **V**, p. xvii.

**HYDE, IDA H.** Differences in electrical potential in developing eggs, 1904, **XII**, p. 241.

The effect of distension of the ventricle on the flow of blood through the walls of the heart, 1898, **I**, p. 215.

The effect of salt solutions on the respiration, heart beat, and blood pressure in the skate, 1908, **XXIII**, p. 201.

Localization of the respiratory centre in the skate, 1904, **X**, p. 236.

A reflex respiratory centre, 1906, **XV**, p. xi.

A reflex respiratory centre, 1906, **XVI**, p. 368.

A study of the respiratory and cardiac activities and the blood pressure in the skate after intravenous injections of salt solutions, 1908, **XXI**, p. xvii.

**J**

**JACKSON, D. E.** An automatic shellacking device, 1911, **XXVII**, p. xxx.

A note on the pharmacological action of vanadium, 1912, **XXIX**, p. xxxiii.

On the pharmacological action of uranium, 1910, **XXVI**, p. 381.

The prolonged existence of adrenalin in the blood, 1909, **XXIII**, p. 226.

**JACKSON, D. E., and S. A. MATTHEWS.** The sensory nerves of the heart and blood vessels as a factor in determining the action of drugs, 1908, **XXI**, p. 255.

**JACKSON, D. E.** See MATTHEWS and JACKSON, 1907, **XIX**, p. 5.

**JACKSON, H. C.** On the influence of camphor ingestion upon the excretion of dextrose in phlorhizin diabetes, 1903, **VIII**, p. xxxii.

On the phosphorus content of the paranuclein from casein, 1900, **IV**, p. 170.



**JACKSON, H. C.**

See CHITTENDEN, MENDEL, and JACKSON, 1898, **I**, p. 164.

See EWING and JACKSON, 1912, **XXIX**, p. xx.

See MANDEL and JACKSON, 1903, **VIII**, p. xiii.

See MENDEL and JACKSON, 1898, **II**, p. i.

See MENDEL and JACKSON, 1900, **III**, p. iii.

See MENDEL and JACKSON, 1900, **IV**, p. 163.

See WALLACE and JACKSON, 1903, **VIII**, p. xvii.

**JACOBSON, CLARA.** The concentration of ammonia in the blood of dogs and cats necessary to produce ammonia tetany, 1910, **XXVI**, p. 407.

The effects of blood transfusion in parathyroid tetany, 1912, **XXX**, p. 47.

The rate of healing of wounds in denervated skin areas and its bearing on the theory of trophic nerves, 1910, **XXVI**, p. 413.

See CARLSON and JACOBSON, 1910, **XXV**, p. 403.

See CARLSON and JACOBSON, 1911, **XXVIII**, p. 133.

**JACOBSON, N.** (reported by G. P. CLARK). A hair-cast of a living human stomach, 1901, **V**, p. xvii.

**JENKINS, O. P., and A. J. CARLSON.** The rate of nervous impulse in certain molluscs, 1903, **VIII**, p. 251.

**JENNINGS, H. S.** Studies on reactions to stimuli in unicellular organisms. **II.** — The mechanism of the motor reactions of *Paramecium*, 1899, **II**, p. 311.

Studies on reactions to stimuli in unicellular organisms. **IV.** — Laws of chemotaxis in *Paramecium*, 1899, **II**, p. 355.

Studies on reactions to stimuli in unicellular organisms. **V.** — On the movements and motor reflexes of the *Flagellata* and *Ciliata*, 1900, **III**, p. 229.

Studies on reactions to stimuli in unicellular organisms. **VI.** — On the reactions of *Chilomonas* to organic acids, 1900, **III**, p. 397.

**JENNINGS, H. S., and J. H. CROSBY.** Studies on reactions to stimuli in unicellular organisms. **VII.** — The manner in which bacteria react to stimuli, especially to chemical stimuli, 1901, **VI**, p. 31.

**JENNINGS, H. S., and E. M. MOORE.** Studies on reactions to stimuli in unicellular organisms. **VIII.** — On the reactions of infusoria to carbonic and other acids, with especial reference to the causes of the gatherings spontaneously formed, 1902, **VI**, p. 233.

**JENNINGS, H. S.** Studies on reactions to stimuli in unicellular organisms. **IX.** — On the behavior of fixed infusoria (*Stentor* and *Vorticella*), with special reference to the modifiability of protozoan reactions, 1902, **VIII**, p. 23.

**JONES, D. B.** See OSBORNE and JONES, 1909, **XXIV**, pp. 153, 161, 437.

See OSBORNE and JONES, 1910, **XXVI**, pp. 212, 305.

See OSBORNE, JONES, and LEAVENWORTH, 1900, **XXIV**, p. 252.

**JONES, W.** The chemistry of the melanins, 1899, **II**, pp. 380, vi.

On the enzyme of the suprarenal gland, 1904, **X**, p. xxv.

On the enzyme of the thymus, 1904, **X**, p. xxiv.

On the nucleic acid of the suprarenal, 1902, **VI**, p. xxvi.

**JONES, W.**

On the xanthin bases of the suprarenal gland, 1903, **VIII**, p. xlii.

On thymine, 1900, **III**, p. xxxii.

**JONES, W., and J. AUER.** On the oxidation of native pigments, 1901, **V**, pp. 321, xvii.

**JONES, W., and C. R. AUSTRIAN.** On the occurrence of ferments in embryos, 1907, **XIX**, p. xix.

**JONES, W., and G. H. WHIPPLE.** The nucleoproteid of the suprarenal, 1902, **VII**, p. 423.

**JONES, W.** See GAMGEE and JONES, 1903, **VIII**, pp. 447, xli.

**JORDAN, E. O.** The production of fluorescent pigment by bacteria, 1899, **II**, p. xviii.

**JORDAN, H. E., and J. A. E. EYSTER.** The physiological action of extracts of the pineal body, 1911, **XXIX**, p. 115.

**JORDAN, H. E.** See EYSTER and JORDAN, 1911, **XXVII**, p. xxiii.

**JORDAN, W. H., E. B. HART, and A. J. PATTEN.** A study of the metabolism and physiological effects of certain phosphorus compounds with milch cows, 1906, **XVI**, p. 268.

**JOSEPH, D. R.** The inhibitory effect of magnesium upon some of the toxic effects of eserine, 1909, **XXIII**, p. 215.

**JOSEPH, D. R., and S. J. MELTZER.** Contributions to our knowledge of the action of sodium and calcium upon the direct and indirect irritability of the muscles of the frog, 1911, **XXIX**, p. 1.

The effect of stimulation of the peripheral end of the splanchnic nerves upon the pupil, 1912, **XXIX**, p. xxxiv.

The effect of stimulation of the vagi upon the onset and development of rigor mortis of the mammalian heart, 1908, **XXI**, p. xiv.

The effect of subminimal electrical stimulation of the vagi upon the development of cardiac rigor, 1909, **XXIII**, p. xxviii.

The effect of subminimal stimulation of the pneumogastric nerves upon the onset of cardiac rigor, 1909, **XXV**, p. 113.

Inhibition of the duodenum coincident with the movements of the pyloric part of the stomach, 1911, **XXVII**, p. xxxi.

The mutual antagonistic life-saving action of barium and magnesium, — a demonstration, 1910, **XXV**, p. xvii.

**JOSEPH, D. R.** See BROWN and JOSEPH, 1906, **XVI**, p. 110.

**K**

**KASTLE, J. H.** On the available alkali in the ash of human and cow's milk in its relation to infant nutrition, 1908, **XXII**, p. 284.

On the use of nitrous acid, nitrites and aqua regia in the determination of the mineral constituents of urine, 1908, **XXII**, p. 411.

**KASTLE, J. H., and F. A. McDERMOTT.** Some observations on the production of light by the firefly, 1910, **XXVII**, p. 122.

- KEMP, G. T.** Relation of blood plates to the increase in the number of red corpuscles at high altitudes, 1902, **VI**, p. xi.  
Report of an expedition to Cripple Creek and Pike's Peak to study the effect of altitude on the blood, 1904, **X**, p. xxxii.
- KEMP, G. T., and H. CALHOUN.** Some new observations on blood-plates and leucocytes, 1901, **V**, p. iv.
- KEMP, G. T., and S. L. DEWEY.** The action of certain toxic products of the typhoid bacillus on the heart, 1900, **IV**, p. viii.
- KEMP, G. T., and L. D. HALL.** The formation of fat in animals fattened for slaughter, 1907, **XVIII**, p. xix.
- KEMP, G. T., and E. R. HAYHURST.** Observations on the survival-respiration of curarized and non-curarized muscle, 1906, **XV**, p. xxviii.
- KEMP, G. T., and O. O. STANLEY.** Some new observations on blood plates, 1902, **VI**, p. xi.
- KEMP, G. T., O. O. STANLEY, and E. R. HAYHURST.** A new apparatus for the quantitative determination of small amounts of carbon dioxide, 1906, **XV**, p. xxxi.
- KETRON, L. W.** See WOLFSOHN and KETRON, 1910, **XXV**, p. xxv.
- KING, J.** See VOEGTLIN and KING, 1909, **XXIII**, p. xxxvii.
- KING, J. L., and S. SIMPSON.** Motor localization in the cerebral cortex of the sheep, 1909, **XXIII**, p. xiv.
- KINGSLEY, C. R.** See EYSTER, AUSTRIAN, and KINGSLEY, 1907, **XVIII**, p. 413.
- KIRKWOOD, J. E., and W. J. GIES.** Changes in the composition of the coconut during germination, 1901, **V**, p. xiv.
- KLEINER, I. S., and S. J. MELTZER.** A comparison of the effects of subcutaneous and intramuscular injections of adrenalin upon the production of glycosuria, 1912, **XXIX**, p. xxvi.
- KLEINER, I. S.** See MENDEL and KLEINER, 1910, **XXVI**, p. 396.
- KLOTZ, O.** On the presence of soaps in the organism in certain pathological conditions (a preliminary communication), 1905, **XIII**, p. xxi.
- KNOWLTON, F. P.** A case of tumor of the floor of the fourth ventricle with cerebellar symptoms, in a cat, 1905, **XIII**, p. xx.
- KOBER, P. A.** See LEVENE and KOBER, 1909, **XXIII**, p. 324.
- KOCH, W.** The chemical analysis of the brain, 1902, **VI**, p. xxvi.  
Demonstration of an apparatus for the extraction of nerve tissues, 1908, **XXI**, p. xxvi.  
The distribution of sulphur and phosphorus in the human brain, 1907, **XIX**, p. xix.  
Methods for the quantitative chemical analysis of the brain and cord, 1904, **XI**, p. 303.  
On psychic secretion, 1905, **XIII**, p. xxxvii.  
On the chemical study of mental disorders, 1908, **XXI**, p. xxv.  
On the origin of kreatinin, 1905, **XIII**, p. xix.  
The physiological action of formaldehyde, 1902, **VI**, p. 325.  
Relation of kreatinin excretion to variations in diet, 1905, **XV**, p. 15.

**KOCH, W.**

A study of the metabolism of the nervous system, 1906, **XV**, p. xv.

**KOCH, W.**, and **W. H. GOODSON**. A preliminary study of the chemistry of nerve tissue degeneration, 1906, **XV**, p. 272.

**KODIS, T.** The electrical resistance in dying muscle, 1901, **V**, p. 267.

**KRISTELLER, L.** See **LEVENE** and **KRISTELLER**, 1909, **XXIV**, p. 45.

**L**

**LADD, W. E.** See **PORTER**, **FROTHINGHAM**, and **LADD**, 1904, **X**, p. xvi.

**LAMB, F. H.** See **PORTER** and **LAMB**, 1905, **XIII**, p. xxiii.

**LATIMER, C. W.** On the modification of rigor mortis resulting from previous fatigue of the muscle, in cold-blooded animals, 1898, **II**, p. 29.

**LAWRENCE, C. H., Jr.** See **PORTER**, **LAWRENCE**, and **NEWBURGH**, 1906, **XV**, p. xxix.

**LEAMING, E.** See **HARRINGTON** and **LEAMING**, 1899, **III**, p. 9.

**LEAPER, W. E.** See **MEEK** and **LEAPER**, 1911, **XXVII**, p. 308.

**LEAVENWORTH, C. S.** See **MENDEL** and **LEAVENWORTH**, 1907, **XX**, p. 117.

See **MENDEL** and **LEAVENWORTH**, 1908, **XXI**, pp. 69, 77, 85, 95, 99.

See **OSBORNE**, **JONES**, and **LEAVENWORTH**, 1909, **XXIV**, p. 252.

See **OSBORNE**, **LEAVENWORTH**, and **BRAUTLECHT**, 1908, **XXIII**, p. 180.

**LEE, F. S.** The action of ethyl-alcohol on contractile protoplasm, 1903, **VIII**, p. xix.

The action of normal fatigue substances on muscle, 1907, **XX**, p. 170.

The cause of the treppe, 1907, **XVIII**, pp. xviii, 267.

The functions of the ear and the lateral line in fishes, 1898, **I**, p. 128.

The nature of muscle fatigue, 1899, **II**, p. xi.

A new head holder for rabbits, 1904, **X**, p. xliii.

A new respiration apparatus, 1899, **II**, p. xx.

A simple oncometer, 1899, **II**, p. xx.

Some of the chemical phenomena of muscle fatigue, 1906, **XV**, p. xxxi.

Some of the physical phenomena of muscle-fatigue, 1905, **XIII**, p. xxviii.

The survival of mammalian muscle after somatic death, 1900, **III**, p. xxix.

**LEE, F. S.**, and **S. EVERINGHAM**. Fatigue of muscle stimulated directly and indirectly, 1909, **XXIII**, p. xxxvii.

Pseudo-fatigue of the spinal cord, 1909, **XXIV**, p. 384.

**LEE, F. S.**, and **C. C. HARROLD**. The action of phlorhizin on muscle, 1900, **IV**, p. ix.

**LEE, F. S.**, and **M. LEVINE**. The action of ethyl alcohol and water on muscle, 1912, **XXX**, p. 389.

**LEE, F. S.**, and **W. SALANT**. The action of alcohol on muscle, 1902, **VI**, pp. xiii, viii, 61.

**LEE, F. S.** (for **H. EMERSON**). Demonstration of a new water manometer, 1905, **XIII**, p. xxxvii.

**LEE, F. S.** See **HOLT** and **LEE**, 1901, **IV**, p. 460.

- LELAND, G. A., Jr.** See **HENDERSON, LELAND, and MEANS**, 1908, **XXII**, p. 48.
- LESEM, W. W., and W. J. GIES.** Notes on the "protagon" of the brain, 1902, **VIII**, p. 183.
- LEVENE, P. A.** Analysis of some nucleic acids, 1901, **V**, p. viii.  
The autolysis of animal organs, 1904, **XI**, p. 437.  
The autolysis of animal organs. II. — Hydrolysis of fresh and self-digested glands, 1904, **XII**, p. 276.  
Embryo-chemical studies. II. — The presence of mono-amido-acids in the developing egg, 1902, **VI**, p. xxvi.  
The end-products of self-digestion of animal glands, 1904, **X**, p. xxxviii.  
The end-products of tryptic digestion of gelatine, 1904, **X**, p. xxxix.  
Glycocoll in gelatoses, 1902, **VI**, p. xxvi.  
Hydrolysis of spleen-nucleic acid by dilute mineral acid, 1904, **XII**, p. 213.  
The hydrolytic cleavage of protoalbumose, 1903, **XIII**, p. xii.  
Iodine in the tissues after the administration of potassium iodide, 1899, **II**, p. xv.  
A method of obtaining nucleic acid, 1900, **III**, p. xxxii.  
A note on the chemical nature of trypsin, 1901, **V**, p. 298.  
On glucophosphoric acid, 1902, **VI**, p. xxvi; 1903, **VIII**, p. xi.  
On glucothionic acid, 1903, **VIII**, p. xi.  
On mucin, 1900, **III**, p. viii.  
On nucleic acid, 1903, **VIII**, p. xii; **IX**, p. xvii.  
Some chemical changes in the developing egg, 1900, **III**, p. xii.
- LEVENE, P. A., and C. L. ALSBERG.** The chemistry of paranucleo compounds, 1900, **IV**, p. xi.
- LEVENE, P. A., and P. A. KOBER.** The elimination of total nitrogen, urea and ammonia following the administration of glyccol, asparagin, and glycylglycinanhydride, 1909, **XXIII**, p. 324.
- LEVENE, P. A., and L. KRISTELLER.** Factors regulating the creatinin output in man, 1909, **XXIV**, p. 45.
- LEVENE, P. A., and I. LEVIN.** Preliminary communication on the absorption of proteids, 1899, **II**, p. xvii.
- LEVENE, P. A., and F. MEDIGRECEANU.** On nuclein metabolism in the dog, 1911, **XXVII**, p. 438.
- LEVENE, P. A., and L. B. MENDEL.** Some basic decomposition products of edestin, 1900, **III**, p. iv.  
Some decomposition products of the crystallized vegetable proteid edestin, 1901, **VI**, p. 48.
- LEVENE, P. A., and G. M. MEYER.** The elimination of total nitrogen, urea, and ammonia following the administration of some amino-acids, glycylglycin, and glycylglycin anhydrid, 1909, **XXV**, p. 214.
- LEVENE, P. A., and L. B. STOOKEY.** On the biological relation of proteids and proteid assimilation, 1903, **VIII**, p. xxiii.  
On the combined action of proteolytic enzymes, 1904, **XII**, p. 1.

**LEVENE, P. A., and L. B. STOOKEY.**

On the digestion of gelatine, 1903, **VIII**, p. xxiii.

On the nucleoproteids of the brain, 1904, **X**, p. xlv.

**LEVENE, P. A.** See CARREL, MEYER, and LEVENE, 1910, **XXV**, p. 439.

See CARREL, MEYER, and LEVENE, 1910, **XXVI**, p. 369.

See LEVIN, MANSON, and LEVENE, 1909, **XXV**, p. 231.

**LEVIN, I.** On decapsulation of the kidney, 1904, **XII**, p. 304.

Physiological studies on the blood of animals deprived of the adrenals, 1901, **V**, pp. 358, ix.

Physiological studies on mucin, 1900, **III**, p. xxix; **IV**, p. 90.

**LEVIN, I., D. D. MANSON, and P. A. LEVENE.** The influence of the removal of segments of the gastrointestinal tract on the character of protein metabolism, 1909, **XXV**, p. 231.**LEVIN, I.** See LEVENE and LEVIN, 1899, **II**, p. xvii.**LEVINE, M.** See LEE and LEVINE, 1912, **XXX**, p. 389.**LEWIS, D. D.** See MILLER, LEWIS, and MATTHEWS, 1911, **XXVII**, p. xvii.**LEWIS, W. H.** See LOEB and LEWIS, 1902, **VI**, pp. 305, xxvi.**LIDDLE, L. M.** - See OSBORNE and LIDDLE, 1910, **XXVI**, pp. 295, 420.**LIEB, C. W.** See CANNON and LIEB, 1911, **XXVII**, p. xiii.

See CANNON and LIEB, 1911, **XXIX**, p. 267.

**LIFE, A. C.** See ABBOTT and LIFE, 1908, **XXII**, p. 202.**LILLIE, F. R.** Notes on regeneration and regulation in planarians (continued), 1901, **VI**, p. 129.**LILLIE, R. S.** The action of isotonic solutions of neutral salts on unfertilized echinoderm eggs, 1910, **XXV**, p. xxiii.

Antagonism between salts and anæsthetics. **I.** — On the conditions of the antistimulating action of anæsthetics with observations on their protective or antitoxic action, 1912, **XXIX**, p. 372.

Antagonism between salts and anæsthetics. **II.** — Decrease by anæsthetics in the rate of toxic action of pure isotonic salt solutions on unfertilized starfish and sea-urchin eggs, 1912, **XXX**, p. 1.

The "antitoxic" influence of certain anions on the action of solutions of alkaline earth chlorides on ciliated cells, 1906, **XV**, p. xiii.

The influence of electrolytes and of certain other conditions on the osmotic pressure of colloidal solutions, 1907, **XX**, p. 127.

On differences in the direction of the electrical convection of certain free cells and nuclei, 1903, **VIII**, p. 273.

On differences in the effects of various salt-solutions on ciliary and on muscular movements in *Arenicola* larvæ. **I.** — 1901, **V**, p. 56.

On the connection between changes of permeability and stimulation, and on the significance of changes in permeability to carbon dioxide, 1909, **XXIV**, p. 14.

On the effects of various solutions on ciliary and muscular movement in the larvæ of *Arenicola* and *Polygordius*. **II.** — 1902, **VII**, p. 25.

On the oxidative properties of the cell-nucleus, 1902, **VII**, p. 412.



**LILLIE, R. S.**

- On the relation of the coagulation of the colloids of the Ctenophore swimming-plate to its contractility, 1906, **XV**, p. xii.
- The osmotic pressure of colloids and the action of electrolytes on the osmotic pressure of protein solutions, 1907, **XIX**, p. xvi.
- The physiology of cell-division. I. — Experiments on the conditions determining the distribution of chromatic matter in mitosis, 1905, **XV**, p. 46.
- The physiology of cell-division. II. — The action of isotonic solutions of neutral salts on unfertilized eggs of *Asterias* and *Arbacia*, 1910, **XXVI**, p. 106.
- The physiology of cell-division. III. — The action of calcium salts in preventing the initiation of cell division in unfertilized eggs through isotonic solutions of sodium salts, 1911, **XXVII**, p. 287.
- Production of artificial parthenogenesis in *Asterias* through momentary elevation of temperature, 1907, **XVIII**, p. xvi.
- The relation between contractility and coagulation of the colloids in the Ctenophore swimming-plate, 1906, **XVI**, p. 117.
- The relation of ions to ciliary movement, 1904, **X**, p. 419.
- The relation of ions to contractile processes. I. — The action of salt solutions on the ciliated epithelium of *Mytilus edulis*, 1906, **XVII**, p. 89.
- The relation of ions to contractile processes. II. — The rôle of calcium salts in the mechanical inhibition of the Ctenophore swimming-plate, 1908, **XXI**, p. 200.
- The relation of ions to contractile processes. III. — The general conditions of fibrillar contractility, 1908, **XXII**, p. 75.
- The relation of ions to contractile processes. IV. — The influence of various electrolytes in restoring muscular contractility after its loss in solutions of sugar and of magnesium chloride, 1909, **XXIV**, p. 459.
- The relation of stimulation and conduction in irritable tissues to changes in the permeability of the limiting membranes, 1911, **XXVIII**, p. 197.
- The rôle of the cell nucleus in oxidation and synthesis, 1902, **VI**, p. xv.
- The sensitizing and desensitizing action of various electrolytes on muscle and nerve, 1910, **XXV**, p. xxii.

**LINGLE, D. J.** The action of certain ions on ventricular muscle, 1900, **IV**, p. 265.

Further experiments on the importance of sodium for the heart-beat, 1902, **VI**, p. xxv.

The importance of sodium chloride in heart activity, 1902, **VIII**, p. 75.

The mechanism of tone in plain muscle, 1910, **XXVI**, p. 361.

Restorers of the cardiac rhythm, 1905, **XIV**, p. 433.

**LLOYD, H. D.** See CLEGHORN and LLOYD, 1901, **V**, p. xvi.**LOEB, J.** The biological problems of to-day: physiology, 1898, **I**, p. xv.

Experiments on artificial parthenogenesis in annelids (*Chaetopterus*) and the nature of the process of fertilization, 1901, **IV**, p. 423.

Further experiments on artificial parthenogenesis and the nature of the process of fertilization, 1900, **IV**, p. 178.



**LOEB, J.**

- Further experiments on the antagonistic action of salts, 1911, **XXVII**, p. xxxii.  
 On an apparently new form of muscular irritability (contact irritability?) produced by solutions of salts (preferably sodium salts) whose anions are liable to form insoluble calcium compounds, 1901, **V**, p. 362.  
 On artificial parthenogenesis, 1900, **III**, p. xxxi.  
 On ion-proteid compounds and their rôle in the mechanics of life phenomena.  
 I. — The poisonous character of a pure NaCl solution, 1900, **III**, p. 327.  
 On the artificial production of normal larvæ from the unfertilized eggs of the sea urchin (*Arbacia*), 1900, **III**, p. 434.  
 On the different effect of ions upon myogenic and neurogenic rhythmical contractions and upon embryonic and muscular tissue, 1900, **III**, p. 383.  
 On the nature of the process of fertilization and the artificial production of normal larvæ (*plutei*) from the unfertilized eggs of the sea urchin, 1899, **III**, p. 135.  
 On the transformation and regeneration of organs, 1900, **IV**, p. 60.  
 The physiological effects of the electrical charge of ions and the electrical character of life phenomena, 1902, **VI**, p. xxvi.  
 Studies on the physiological effects of the valency and possibly the electrical charges of ions. I. — The toxic and antitoxic effects of ions as a function of their valency and possibly their electrical charge, 1902, **VI**, p. 411.

**LOEB, J., and W. J. GIES.** Further studies of the toxic and antitoxic effects of ions, 1903, **VIII**, p. xiv.

**LOEB, J., and W. H. LEWIS.** On the prolongation of the life of unfertilized eggs of the sea-urchin by potassium cyanide, 1902, **VI**, pp. 305, xxvi.

**LOEB, L.** The action of blood serum and tissue extracts on the coagulation of the blood, 1907, **XVIII**, p. xvii.

The functions of the corpus luteum, 1911, **XXVII**, p. xxii.

See **FLEISHER** and **LOEB**, 1910, **XXV**, p. xv.

**LOEVENHART, A. S.** Further observations on the action of lipase, 1906, **XV**, p. xxvii.

Further observations on the catalytic decomposition of hydrogen peroxide, 1905, **XIII**, pp. 171, xxxvii.

On the occurrence of lipase in the body, and its reversible action, 1901, **V**, p. xii.

On the relation of lipase to fat metabolism — lipogenesis, 1902, **VI**, p. 331.

Some observations on the coagulation of milk, 1903, **VIII**, p. xxxv.

**LOMBARD, W. P.** The action of the two-joint muscles of the hind-leg of the frog, with special reference to the spring movement, 1903, **VIII**, p. xxiv.

Apparatus for recording contractions, by localized unipolar excitation of the nerve, of an isolated nerve-muscle preparation, 1900, **IV**, p. xii.

The blood pressure in the arterioles, capillaries, and small veins of the human skin, 1912, **XXIX**, p. 335.

A cheap support for hand drums, 1900, **IV**, p. xv.

Demonstration of a model showing effects of lesions of heart valves and "compensation" on the circulation, 1908, **XXI**, p. xxvii.

**LOMBARD, W. P.**

Demonstration of apparatus, 1902, **VI**, p. xxiv.

Demonstration of the effect of excitation of the vagus nerve on the pulse curve obtained from the longitudinal expansion of the carotid, 1906, **XV**, p. xxxi.

Earth-currents observed at the physiological laboratory of the University of Michigan, 1900, **IV**, p. iv.

Evaporation of water from the skin and air passages of men at rest, 1908, **XXI**, p. xxvi.

An exhibition of apparatus, 1906, **XV**, p. xxxii.

An improved form of Ellis's piston recorder, 1899, **II**, p. xx.

A new form of electric signal, 1908, **XXI**, p. xxvii.

**LOMBARD, W. P., and F. M. ABBOTT.** The mechanical effects produced by the contraction of individual muscles of the thigh of the frog, 1907, **XX**, p. 1.

**LOMBARD, W. P., and A. E. GUENTHER.** A convenient form of pressure-bottle, 1900, **IV**, p. iii.

**LOMBARD, W. P., and W. B. PILLSBURY.** A new form of piston recorder and some of the changes of the volume of the finger which it records, 1899, **III**, p. 186.

Secondary rhythms of the normal human heart, 1899, **III**, p. 201.

**LOMBARD, W. P. (for Mr. ABBOTT).** A method of studying the action of the muscles of the hind leg of the frog, 1906, **XV**, p. xxxii.

**LOMBARD, W. P. (for W. P. BOWEN).** Exhibition of mercury-mercury stimulator, 1903, **VIII**, p. xx.

Exhibition of new form of platinum-mercury stimulator, 1903, **VIII**, p. xx.

**LOMBARD, W. P. (for C. J. WIGGERS).** A method of studying the action of adrenalin, etc., on the blood vessels of the isolated brain, 1906, **XV**, p. xxxii.

**LOTHROP, A. P.** The effects of bone ash in the diet on the gastrointestinal conditions of dogs, 1909, **XXIV**, p. 297.

**LOVETT, R. W.** See REYNOLDS and LOVETT, 1909, **XXIV**, p. 286.

**LOWSLEY, O. S.** The effects of various forms of exercise on systolic, diastolic, and pulse pressures and pulse rate, 1911, **XXVII**, p. 446.

**LUCAS, D. R.** Physiological and pharmacological studies of the ureter. **III.** — 1908, **XXII**, p. 245.

Studies of the peristalsis of the ureter of dogs by the graphic method, 1906, **XVII**, p. 392.

See OPITZ and LUCAS, 1909, **XXIII**, p. xxxvii.

**LUCKHARDT, A. B.** Contributions to the physiology of lymph. **X.** — The comparative electrical conductivity of lymph and serum of the same animal, and its bearing on theories of lymph formation, 1910, **XXV**, p. 345.

The osmotic concentration of the blood during anaesthesia, 1908, **XXI**, p. xxv.

**LUCKHARDT, A. B., and F. C. BECHT.** The part played by the spleen in the formation of immune bodies, 1911, **XXVII**, p. xvi.

The relation of the spleen to the fixation of antigens and the production of immune bodies, 1911, **XXVIII**, p. 257.

- LUCKHARDT, A. B.** See BECHT and LUCKHARDT, 1911, **XXVII**, p. xi.  
See CARLSON, GREER, and LUCKHARDT, 1908, **XXII**, p. 91.  
See CARLSON and LUCKHARDT, 1908, **XXI**, p. 162.  
See CARLSON and LUCKHARDT, 1908, **XXIII**, p. 148.
- LUSK, G.** A convenient rabbit-holder, 1902, **VI**, p. xxvi.  
The influence of cold and mechanical exercise on the sugar excretion in phlorhizin glycosuria, 1908, **XXII**, p. 163.  
The influence of cold baths on the glycogen content of man, 1911, **XXVII**, p. 427.  
The influence of mechanical energy in phlorhizin diabetes, 1907, **XVIII**, p. xii.  
The influence of phlorhizin diabetes on lactation, 1900, **IV**, p. xi.  
A law of growth reiterated, 1906, **XV**, p. xvii.  
Metabolism in phosphorus poisoning, 1907, **XIX**, p. 461.  
A method of removing glycogen from the human subject, 1911, **XXVII**, p. xxii.  
On metabolism in fatty degeneration, 1898, **I**, p. v.  
On the absence of a cane-sugar inverting enzyme in the gastric juice, 1904, **X**, p. xxi.  
On the question whether dextrose arises from cellulose in digestion, 1902, **VI**, p. xiii; 1911, **XXVII**, p. 467.  
The production of sugar from glutamic acid ingested in phlorhizin glycosuria, 1908, **XXII**, p. 174.
- LUSK, G., and A. R. MANDEL.** Respiration experiments in phlorhizin diabetes, 1903, **IX**, p. xviii.
- LUSK, G., and F. H. PARKER.** On the maximum production of hippuric acid in rabbits, 1899, **II**, p. xiv.
- LUSK, G.** See FERRIS and LUSK, 1898, **I**, p. 277.  
See MANDEL and LUSK, 1903, **X**, p. 47.  
See MANDEL and LUSK, 1906, **XVI**, p. 129.  
See PARKER and LUSK, 1900, **III**, p. 472.  
See RAY, McDERMOTT, and LUSK, 1899, **III**, p. 139.  
See REILLY, NOLAN, and LUSK, 1898, **I**, p. 395.  
See RINGER and LUSK, 1910, **XXV**, p. xix.  
See STILES and LUSK, 1903, **IX**, p. 380.  
See STILES and LUSK, 1903, **X**, p. 67.  
See WILLIAMS, RICHE, and LUSK, 1912, **XXIX**, p. xxxiii.
- LUSSKY, H. O.** Contributions to the physiology of lymph. XI. — The fractional coagulation of lymph, 1910, **XXV**, p. 354.  
Further studies of the aceto-nitrile test for thyroid substance in the blood, 1912, **XXX**, p. 63.
- LYON, E. P.** The catalase of echinoderm eggs before and after fertilization, 1909, **XXV**, p. 199.  
Compensatory motions in fishes, 1900, **IV**, p. 77.  
A contribution to the comparative physiology of compensatory motions, 1899, **III**, p. 86.

**LYON, E. P.**

- Demonstration of apparatus, 1905, **XIII**, p. xxxvii.  
Demonstration of a CO<sub>2</sub> apparatus, 1908, **XXI**, p. xxvi.  
Effects of potassium cyanide and of lack of oxygen on the development of sea-urchin eggs, 1902, **VI**, p. xxvi.  
Effects of potassium cyanide and of lack of oxygen upon the fertilized eggs and the embryos of the sea-urchin (*Arbacia punctulata*), 1902, **VII**, p. 56.  
Experiments in artificial parthenogenesis, 1903, **IX**, p. 308.  
A handy varnishing apparatus, 1906, **XV**, p. xxx.  
On Jensen's theory of geotropism in *Paramecium*, 1905, **XIII**, p. xv.  
On rheotropism. I. — Rheotropism in fishes, 1904, **XII**, p. 149.  
On rheotropism. II. — Rheotropism of fish blind in one eye, 1909, **XXIV**, p. 244.  
On the theory of geotropism in *Paramecium*, 1905, **XIII**, p. xxxvii; **XIV**, p. 421.  
Rheotropism in fishes after blinding one eye, 1909, **XXIII**, p. xxxvii.  
Rhythms of susceptibility and of carbon dioxide production in cleavage, 1904, **XI**, p. 52.  
Some results of centrifugalizing the eggs of *Arbacia*, 1906, **XV**, p. xxi.  
**LYON, E. P., and E. M. WILLIAMS.** Uses of the alternating current in the physiological laboratory, 1909, **XXIII**, pp. xxxv, xxxvii.

**M**

- MACALLUM, A. B.** A method of demonstrating the localization of potassium in animal and vegetable cells, 1904, **X**, p. xliii.  
On the occurrence of chlorides in animal and vegetable cells, 1906, **XV**, p. xxxi.  
On the occurrence of chlorides in the nerve axon, 1906, **XV**, p. xxxi.  
On the origin of the relation of the inorganic elements to protoplasm, 1903, **VIII**, p. xlii.  
**MACALLUM, A. B., and C. C. BENSON.** The composition and character of the hourly excretions of urine, 1907, **XIX**, p. xix.  
**MacCALLUM, J. B.** On the action of saline purgatives in rabbits and the counteraction of their effect by calcium, 1903, **X**, p. 101.  
On the local application of solutions of saline purgatives to the peritoneal surfaces of the intestine, 1904, **X**, p. 259.  
**McCLENDON, J. F.** An attempt toward the physical chemistry of the production of one-eyed monstrosities, 1912, **XXIX**, p. 289.  
Chemical studies on the effects of centrifugal force on the eggs of the sea urchin (*Arbacia punctulata*), 1909, **XXIII**, p. 460.  
The effects of prolonged centrifugal force on *Paramecium*, 1908, **XXI**, p. xiv.  
The increased permeability of striated muscle to ions during contraction, 1912, **XXIX**, p. 302.

**McCLENDON, J. F.**

On the dynamics of cell division. II. — Changes in permeability of developing eggs to electrolytes, 1910, **XXVII**, p. 240.

On the dynamics of cell division. III. — Artificial parthenogenesis in vertebrates, 1912, **XXIX**, p. 298.

On the nucleo-albumin in the yolk platelets of the frog's egg, with a note on the black pigment, 1909, **XXV**, p. 195.

The reaction of amœba to stimuli of small area, 1908, **XXI**, p. xiii.

**McCLURE, C. W.** See HOSKINS and McCLURE, 1912, **XXX**, p. 192.**McCOLLUM, E. V.** The nature of the repair processes in protein metabolism, 1911, **XXIX**, p. 215.

Notes on the creatinin excretion of the pig, 1911, **XXIX**, p. 210.

Nuclein synthesis in the animal body, 1909, **XXV**, p. 120.

See HART, McCOLLUM, and FULLER, 1909, **XXIII**, p. 246.

See HART, McCOLLUM, and HUMPHREY, 1909, **XXIV**, p. 86.

**McCrudden, F. H.** The composition of bone in osteomalacia, 1906, **XVII**, p. 32.

The effect of castration on the metabolism in osteomalacia, 1906, **XVII**, p. 211.

See GOLDTHWAIT, PAINTER, OSGOOD, and McCrudden, 1905, **XIV**, p. 389.

**McCURDY, J. H.** The effect of maximum muscular effort on blood pressure, 1901, **V**, p. 95.**McDERMOTT, F. A.** See KASTLE and McDERMOTT, 1910, **XXVII**, p. 122.**McDERMOTT, H. E.** See CHITTENDEN, MENDEL, and McDERMOTT, 1898, **I**, p. 255.**McDERMOTT, T. S.** See RAY, McDERMOTT, and LUSK, 1899, **III**, p. 139.**MacDOUGALL, R.** On the influence of varying intensities and qualities of visual stimulation upon the rapidity of reactions to auditory stimuli, 1903, **IX**, p. 116.

On the relation of eye movements to limiting visual stimuli, 1903, **IX**, p. 122.

**McGUIGAN, H.** Adrenalectomy and glycosuria, 1910, **XXVI**, p. 287.

The direct utilization of the common sugars by the tissues, 1908, **XXI**, p. 334.

On glycolysis, 1908, **XXI**, p. 351.

The oxidation of various sugars and the oxidizing power of different tissues, 1907, **XIX**, p. 175.

The relation between the decomposition-tension of salts and their anti-fermentative properties, 1904, **X**, p. 444.

**McGUIGAN, H., and C. BROOKS.** The mechanism of experimental glycosuria, 1907, **XVIII**, p. 256.**McGUIGAN, H., and C. L. von HESS.** Glycolysis after pancreatectomy and with the addition of antiseptics, 1912, **XXX**, p. 341.**McGUIGAN, H.** See MATHEWS and McGUIGAN, 1906, **XV**, p. xxxi.

See MATHEWS and McGUIGAN, 1907, **XIX**, p. 199.

**McGUIGAN, H.**

See MOSTROM and McGUIGAN, 1912, **XXIX**, p. xxxv.

**McKEE, T. H.** See BUSCH and McKEE, 1900, **XXIII**, p. xxi.**McKIE, J. F.** See CARLSON, ROOKS, and McKIE, 1911, **XXVII**, p. xiii.

See CARLSON, ROOKS, and McKIE, 1912, **XXX**, p. 129.

**McLEAN, F. C.** Further evidence of the presence of vaso-dilator fibres to the submaxillary gland in the cervical sympathetic of the cat, 1908, **XXII**, p. 279.

Further studies on the relation of the oxygen supply to the composition of saliva, 1908, **XXI**, p. xxvi.

See CARLSON and McLEAN, 1908, **XX**, p. 457.

**MACLEOD, J. J. R.** The effect of expressed tissue juices of muscle on the mammalian heart beat, 1907, **XIX**, p. 426.

Observations on the excretion of carbon dioxide gas and the rectal temperature of rats kept in a warm atmosphere which was either very moist or very dry, 1907, **XVIII**, p. 1.

Studies in experimental glycosuria. I.—On the existence of afferent and efferent nerve fibres, controlling the amount of sugar in the blood, 1907, **XIX**, p. 388.

Studies in experimental glycosuria. II.—Some experiments bearing on the nature of the glycogenolytic fibres in the great splanchnic nerve, 1908, **XXII**, p. 373.

**MACLEOD, J. J. R., and H. O. RUH.** Studies in experimental glycosuria. III.—The influence of stimulation of the great splanchnic nerve on the rate of disappearance of glycogen from the liver, deprived of its portal blood supply or of both its portal and systemic blood supplies, 1908, **XXII**, p. 397.

Studies in experimental glycosuria. IV.—The cause of the hyperglycemia produced by asphyxia, 1909, **XXIII**, p. 278.

**MACLEOD, J. J. R., and R. G. PEARCE.** Studies in experimental glycosuria. V.—The distribution of glycogenolytic ferment in the animal body, especially of the dog, 1910, **XXV**, p. 255.

Studies in experimental glycosuria. VI.—The distribution of glycogen over the liver under various conditions. Post mortem glycogenolysis, 1911, **XXVII**, p. 341.

Studies in experimental glycosuria. VII.—The amount of glycogenase in the liver and in the blood issuing from it, as affected by stimulation of the great splanchnic nerve, 1911, **XXVIII**, p. 403.

Studies in experimental glycosuria. VIII.—The relationship of the adrenal glands to sugar production by the liver, 1912, **XXIX**, p. 419.

**MACLEOD, J. J. R., and H. D. HASKINS.** A method for the quantitative estimation of carbamates in animal fluids, 1905, **XIII**, p. xvii.

The quantitative estimation of carbamates, 1905, **XII**, p. 444.

Some remarks on the chemistry of carbamates, 1905, **XIII**, p. xvii.

**MACNIDER, W. DeB., and S. A. MATTHEWS.** A further study of the action of magnesium sulphate on the heart, 1907, **XX**, p. 323.

- MAGNUSSON, C. E., and H. C. STEVENS.** Visual sensations caused by changes in the strength of a magnetic field, 1911, **XXIX**, p. 124.
- MANDEL, A. R.** The alloxuric bases in aseptic fevers, 1904, **X**, p. 452.  
On para-lactic acid, 1905, **XIII**, p. xvi.  
Xanthin as a cause of fever and its neutralization by salicylates, 1907, **XX**, p. 439.
- MANDEL, A. R., and G. LUSK.** Lactic acid in intermediary metabolism, 1906, **XVI**, p. 129.  
Respiration experiments in phlorhizin diabetes, 1903, **X**, p. 47.
- MANDEL, A. R.** See LUSK and MANDEL, 1903, **IX**, p. xviii.
- MANDEL, J. A., and H. C. JACKSON.** On the origin of glycuronic acid, 1903, **VIII**, p. xiii.
- MANNING, CHARLOTTE R.** See BENEDICT and MANNING, 1905, **XIII**, p. 309.  
See BENEDICT and MANNING, 1907, **XVIII**, p. 213.
- MANSON, D. D.** See LEVIN, MANSON, and LEVENE, 1900, **XXV**, p. 231.
- MARKS, H. K.** See PORTER and MARKS, 1908, **XXI**, p. 460.  
See PORTER, MARKS, and SWIFT, 1907, **XX**, p. 444.
- MARTIN, E. G.** An experimental study of the rhythmic activity of isolated strips of the heart muscle, 1904, **XI**, p. 103.  
The inhibitory influence of potassium chloride on the heart, and the effect of variations of temperature upon this inhibition and upon vagus inhibition, 1904, **XI**, p. 370.  
On the relation of ventricular tonus to the causation of heart beat, 1912, **XXX**, p. 182.  
A quantitative study of faradic stimulation. I. — The variable factors involved, 1908, **XXII**, p. 61.  
A quantitative study of faradic stimulation. II. — The calibration of the inductorium for break shocks, 1908, **XXII**, p. 116.  
A quantitative study of faradic stimulation. III. — The measurement of "make" shocks, 1909, **XXIV**, p. 269.  
A quantitative study of faradic stimulation. IV. — The make and break key, 1910, **XXVI**, p. 181.  
A quantitative study of faradic stimulation. V. — The influence of tissue resistance and of kathode surface on stimulating effectiveness, 1910, **XXVII**, p. 226.  
A quantitative study of faradic stimulation. VI. — The comparison of one inductorium with another, 1911, **XXVIII**, p. 49.  
A study of the absorption and consumption of oxygen in heart tissue, 1906, **XV**, p. 303.  
A study of the relations of the inorganic salts of the blood to the contractions of heart muscle and skeletal muscle, 1906, **XVI**, p. 191.
- MARTIN, L. M.** See CARLSON and MARTIN, 1911, **XXIX**, p. 64.
- MAST, S. O.** Reactions to temperature changes in *Spirillum*, *Hydra*, and fresh-water Planarians, 1903, **X**, p. 165.



- MATHEWS, A. P.** The action of pilocarpine and atropine on the embryos of the star-fish and the sea-urchin, 1901, **VI**, p. 207.  
An apparent pharmacological "action at a distance" by metals and metal-loids, 1907, **XVIII**, p. 39.  
Artificial parthenogenesis produced by mechanical agitation, 1901, **VI**, p. 142.  
The cause of the pharmacological action of ammonium salts, 1907, **XVIII**, p. 58.  
The cause of the pharmacological action of the iodates, bromates, chlorates, other oxidizing substances and some organic drugs, 1904, **XI**, p. 237.  
A contribution to the chemistry of cell division, maturation, and fertilization, 1907, **XVIII**, p. 89.  
A contribution to the chemistry of cytological staining, 1898, **I**, p. 445.  
Electrical polarity in the hydroids, 1903, **VIII**, p. 294.  
The nature of chemical and electrical stimulation. **I.** — The physiological action of an ion depends upon its electrical state and its electrical stability, 1904, **XI**, p. 455.  
The nature of chemical and electrical stimulation. **II.** — The tension coefficient of salts and the precipitation of colloids by electrolytes, 1905, **XIV**, p. 203.  
The nature of nerve stimulation and alterations of irritability, 1902, **VI**, p. xxvi.  
The origin of fibrinogen, 1899, **III**, p. 53.  
Pharmacological action of metals at a distance, 1906, **XV**, p. xxxi.  
The relation between solution-tension, atomic volume, and the physiological action of the elements, 1904, **X**, p. 290.  
The so-called cross fertilization of *Asterias* by *Arbacia*, 1901, **VI**, p. 216.  
Some ways of causing mitotic division in unfertilized *Arbacia* eggs, 1900, **IV**, p. 343.  
The spontaneous oxidation of some cell constituents, 1908, **XXI**, p. xxv.  
The spontaneous secretion of saliva, and the action of atropine, 1901, **IV**, p. 482.  
The toxic and antitoxic action of salts, 1905, **XII**, p. 419.  
**MATHEWS, A. P., and H. McGUIGAN.** The oxidation of sugar by copper acetate, 1906, **XV**, p. xxxi.  
A study of the oxidizing power of cupric acetate solutions, 1907, **XIX**, p. 199.  
**MATHEWS, A. P., and R. H. NICHOLL.** Ionic potential and toxicity, 1908, **XXI**, p. xxvi.  
**MATHEWS, A. P., and B. R. WHITCHER.** The importance of mechanical shock in protoplasmic activity, 1903, **VIII**, p. 300.  
**MATTHEWS, S. A.** The effect of Eck's fistula on the formation of bile, 1912, **XXIX**, p. xxvii.  
**MATTHEWS, S. A., and O. H. BROWN.** Inhibition of the action of physostigmin by calcium chloride, 1904, **XII**, p. 173.  
A salt solution in locomotor ataxia, 1904, **XI**, p. 1.  
**MATTHEWS, S. A., and D. E. JACKSON.** The action of magnesium sulphate

- upon the heart and the antagonistic action of some other drugs, 1907, **XIX**, p. 5.
- MATTHEWS, S. A.** See JACKSON and MATTHEWS, 1908, **XXI**, p. 255.  
 See MACNIDER and MATTHEWS, 1907, **XX**, p. 323.  
 See MILLER, LEWIS, and MATTHEWS, 1911, **XXVII**, p. xvii.  
 See RIDDLE and MATTHEWS, 1907, **XIX**, p. 108.
- MAXWELL, S. S.** A case of voluntary erection of the human hair and production of cutis anserina, 1902, **VII**, p. 369.  
 The effect of salt-solutions on ciliary activity, 1905, **XIII**, p. 154.  
 On the exciting cause of compensatory movements, 1912, **XXIX**, p. 367.
- MAXWELL, S. S., and J. C. HILL.** Note upon the effect of calcium and of free oxygen upon rhythmic contraction, 1902, **VII**, p. 409.
- MEAD, L. D., and W. J. GIES.** A comparative study of the reactions of various mucoids, 1902, **VI**, p. xxviii.  
 Physiological and toxicological effects of tellurium compounds, with a special study of their influence on nutrition, 1901, **V**, p. 104.
- MEAD, L. D.** See GIES and MEAD, 1900, **III**, p. xx.
- MEANS, J. H.** See HENDERSON, LELAND, and MEANS, 1908, **XXII**, p. 48.
- MEDIGRECEANU, F.** See LEVENE and MEDIGRECEANU, 1911, **XXVII**, p. 438.
- MEEK, W. J.** The influence of osmotic pressure on the irritability of skeletal muscle, 1906, **XVII**, p. 8.  
 Regeneration of Auerbach's plexus in the small intestine, 1911, **XXVIII**, p. 352.  
 The regeneration of nerve and muscle in the small intestine, 1910, **XXV**, p. 367.  
 Relation of the liver to regeneration of fibrinogen, 1912, **XXIX**, p. xix.  
 Relation of the liver to the fibrinogen content of the blood, 1912, **XXX**, p. 161.  
 The relative resistance of the heart ganglia, the intrinsic nerve plexus, and the heart muscle to the action of drugs, 1908, **XXI**, p. 230.  
 The structure of the heart muscle of *Limulus*, 1908, **XXI**, p. xxvi.
- MEEK, W. J., and J. A. E. EYSTER.** Electrical changes in the heart during vagus stimulation, 1912, **XXX**, p. 271.
- MEEK, W. J., and W. E. LEAPER.** Effects of pressure on conductivity in nerve and muscle, 1911, **XXVII**, p. 308.
- MEEK, W. J.** See CARLSON and MEEK, 1908, **XXI**, p. 1.
- MEIGS, E. B.** The application of McDougall's theory of contraction to smooth muscle, 1908, **XXII**, p. 477.  
 Concerning the supposed connection between protein coagulation and the heat shortening of animal tissues, 1909, **XXIV**, p. 178.  
 The effects of distilled water and of various solutions on the weight and length of striated muscle, 1910, **XXVI**, p. 191.  
 Heat coagulation in smooth muscle; a comparison of the effects of heat on smooth and striated muscle, 1909, **XXIII**, p. xv; **XXIV**, p. 1.  
 A mechanical theory of muscular contraction and some new facts supporting it, 1905, **XIV**, p. 138.

**MEIGS, E. B.**

Microscopic studies on living smooth muscle, 1912, **XXIX**, pp. 317, xiv.

The osmotic properties of smooth muscle, 1911, **XXVII**, p. xvii.

**MELTZER, CLARA.** See MELTZER and MELTZER, 1903, **VIII**, p. xlii.

See MELTZER and MELTZER, 1903, **IX**, pp. 57, 147, 252, xviii.

**MELTZER, S. J.** Demonstration of rabbit's nerves, showing the effect of ligation upon vital staining, 1904, **X**, p. xxiv.

Demonstration of the effects of subcutaneous injection or subconjunctival instillation of adrenalin upon the pupils of rabbits whose corresponding superior cervical ganglia are removed, 1904, **X**, p. xlv.

The effects of a subcutaneous injection of adrenalin on the eyes of cats whose sympathetic nerve is cut, or whose superior cervical ganglion is removed, 1904, **X**, p. xxxvii.

Ether-anæsthesia by the rectum, 1898, **I**, p. viii.

The failure of regeneration of the superior cervical ganglion twenty-six months after its removal. A demonstration, 1907, **XVIII**, p. xiv.

The migration of solutions in animal bodies deprived of their cardiac circulation, 1911, **XXVII**, p. xxix.

A new pleural cannula in situ, 1898, **I**, p. xv.

On the causes of the orderly progress of the peristaltic movements in the oesophagus, 1899, **II**, p. 266.

On the movements of the oesophagus and the cardia, 1901, **V**, p. xvii.

On the nature of the cardiopneumatic movements, 1898, **I**, p. 117.

On some of the complexities of the centre of deglutition, 1901, **V**, p. xvii.

On the toxicology of potassium chlorate, with a demonstration of the effects of intracerebral injections, 1900, **III**, p. ix.

A simple method for the redistention of the collapsed lung, 1898, **I**, p. ix.

Some observations on the effects of agitation upon *Arbacia* eggs, 1903, **IX**, pp. 245, xviii.

**MELTZER, S. J., and CLARA M. AUER.** Studies on the "paradoxical" pupil-dilatation caused by adrenalin. I. — The effect of subcutaneous injections and instillations of adrenalin upon the pupils of rabbits, 1904, **XI**, p. 28.**MELTZER, S. J.** Studies on the "paradoxical" pupil-dilatation caused by adrenalin. II. — On the influence of subcutaneous injections of adrenalin upon the eyes of cats after removal of the superior cervical ganglion, 1904, **XI**, p. 37.**MELTZER, S. J., and CLARA M. AUER.** Studies on the "paradoxical" pupil-dilatation caused by adrenalin. III. — A discussion of the nature of the paradoxical pupil-dilatation caused by adrenalin, 1904, **XI**, p. 40.

The effect of suprarenal extract upon the pupils of frogs, 1904, **XI**, p. 449.

**MELTZER, S. J., and J. AUER.** The action of ergot upon the stomach and intestines, 1906, **XVII**, p. 143.

The action of strontium compared with that of calcium and magnesium, 1908, **XXI**, p. 449.

**MELTZER, S. J., and J. AUER.**

- The antagonistic action of calcium upon the inhibitory effect of magnesium, 1908, **XXI**, p. 400.
- The antagonistic action of calcium upon the inhibitory effect of magnesium — a demonstration, 1908, **XXI**, p. xi.
- The effect of section of one vagus upon the secondary peristalsis of the œsophagus, 1907, **XVIII**, p. xiv.
- Is the anesthesia and motor paralysis caused by magnesium salts due to asphyxia? 1908, **XXIII**, p. 141.
- On the rate of absorption from intramuscular tissue, 1905, **XIII**, p. xxxii.
- Peristaltic rush, 1907, **XX**, p. 259.
- Physiological and pharmacological studies of magnesium salts. I. — General anesthesia by subcutaneous injections, 1905, **XIV**, p. 366.
- Physiological and pharmacological studies of magnesium salts. II. — The toxicity of intravenous injections; in particular the effects upon the centres of the medulla oblongata, 1906, **XV**, p. 387.
- Physiological and pharmacological studies of magnesium salts. III. — The narcotizing effect of magnesium salts upon nerve fibres, 1906, **XVI**, p. 233.
- Physiological and pharmacological studies of magnesium salts. IV. — The relations of the salts to the peristalsis of the gastro-intestinal canal, 1906, **XVII**, p. 313.
- The production of gastro-intestinal peristalsis by ergot and its inhibition by magnesium sulphate, 1906, **XV**, p. xxxi.

**MELTZER, S. J., and W. J. GIES.** Studies on the influence of artificial respiration upon strychnine spasms and respiratory movements, 1903, **VIII**, p. xlii.

- MELTZER, S. J., and CLARA MELTZER.** The effect of the intravenous injection of adrenalin upon the blood-vessels of the ear when deprived of their vaso-constrictors, 1903, **VIII**, p. xlii.
- On a difference in the effect between the simple cutting of the cervical sympathetic nerve and the removal of the superior ganglion, 1903, **IX**, p. xviii.
- On the effects of subcutaneous injection of the extract of the suprarenal capsule upon the blood-vessels of the rabbit's ear, 1903, **IX**, p. 252.
- The share of the central vasomotor innervation in the vasoconstriction caused by intravenous injection of suprarenal extract, 1903, **IX**, p. 147.
- A study of the vasomotor nerves of the rabbit's ear contained in the third cervical and in the cervical sympathetic nerves, 1903, **IX**, p. 57.
- The unmistakable vasomotor influence of subcutaneous injection of adrenalin, 1903, **VIII**, p. xlii.
- The vasomotor influence of the third cervical nerve (auricularis magnus) upon the circulation in the rabbit's ear, 1903, **VIII**, p. xlii.
- MELTZER, S. J., and W. SALANT.** The influence of nephrectomy upon absorption, 1903, **VIII**, p. xlii.

- MELTZER, S. J.** See AUER and MELTZER, 1909, **XXIII**, p. xx.  
See AUER and MELTZER, 1909, **XXV**, p. 43.  
See AUER and MELTZER, 1912, **XXIX**, pp. xxix, xxxii.  
See GIES and MELTZER, 1903, **IX**, p. 1.  
See GITHENS and MELTZER, 1912, **XXIX**, p. xxxiv.  
See JOSEPH and MELTZER, 1908, **XXI**, p. xiv.  
See JOSEPH and MELTZER, 1909, **XXIII**, p. xxviii.  
See JOSEPH and MELTZER, 1909, **XXV**, p. 113; 1910, **XXV**, p. xvii.  
See JOSEPH and MELTZER, 1911, **XXVII**, p. xxxi.  
See JOSEPH and MELTZER, 1911, **XXIX**, p. 1; 1912, **XXIX**, p. xxxiv.  
See KLEINER and MELTZER, 1912, **XXIX**, p. xxvi.  
See SHAKLEE and MELTZER, 1909, **XXIII**, p. xxix.  
See SHAKLEE and MELTZER, 1909, **XXV**, p. 81.
- MENDEL, L. B.** The absorption of fats stained with Sudan III, 1909, **XXIV**, p. 493.  
The alimentary enzymes of the embryo, 1906, **XV**, p. xiii.  
Brief contributions to physiological chemistry, 1900, **IV**, p. 243.  
The chemical composition and nutritive value of some edible American fungi, 1898, **I**, p. 225.  
A demonstration of apparatus, 1906, **XV**, p. xxxii.  
Embryo-chemical studies. — The purine metabolism of the embryo, 1907, **XIX**, p. xvii.  
Further observations on the parenteral utilization of carbohydrates, 1908, **XXI**, p. xii.  
New experiments on allantoin excretion, 1902, **VI**, p. xiv.  
On the occurrence of iodine in corals, 1900, **IV**, p. 243.  
On the occurrence of iodine in the thymus and thyroid glands, 1900, **III**, pp. 285, xxxii.  
On the paths of absorption for proteids, 1899, **II**, p. 137.  
On the paths of absorption from the peritoneal cavity, 1899, **II**, pp. 342, xvi.  
Some experiments on the excretion of kynurenic acid, 1898, **I**, p. xv.
- MENDEL, L. B., and S. R. BENEDICT.** The excretion of magnesium and calcium, 1909, **XXIII**, p. xviii.
- MENDEL, L. B., and H. C. THACHER.** The paths of excretion for inorganic compounds. I. — The excretion of strontium, 1904, **XI**, p. 5.
- MENDEL, L. B., and D. F. SICHER.** The paths of excretion for inorganic compounds. II. — The excretion of barium, 1906, **XVI**, p. 147.
- MENDEL, L. B., and O. E. CLOSSON.** The paths of excretion for inorganic compounds. III. — The excretion of rubidium, 1906, **XVI**, p. 152.
- MENDEL, L. B., and S. R. BENEDICT.** The paths of excretion for inorganic compounds. IV. — The excretion of magnesium, 1909, **XXV**, p. 1.  
The paths of excretion for inorganic compounds. V. — The excretion of calcium, 1909, **XXV**, p. 23.
- MENDEL, L. B., and H. C. BRADLEY.** Experimental studies on the physiology of the molluscs, — First paper, 1905, **XIII**, p. 17.

**MENDEL, L. B., and H. C. BRADLEY.**

Experimental studies on the physiology of the molluscs, —second paper, 1905, **XIV**, p. 313.

Experimental studies on the physiology of the molluscs, — third paper, 1906, **XVII**, p. 167.

**MENDEL, L. B., and E. W. BROWN.** Observations on the nitrogenous metabolism of the cat, especially on the excretion of uric acid and allantoin, 1900, **III**, p. 261.

On the excretion of allantoin and uric acid in the cat, 1900, **III**, p. xxxi.

**MENDEL, L. B., and O. E. CLOSSON.** On the elimination of creatinin, 1905, **XIII**, p. xix.**MENDEL, L. B., and R. B. GIBSON.** Nitrogenous metabolism after splenectomy, 1904, **X**, p. xxix.

Observations on nitrogenous metabolism in man after removal of the spleen, 1907, **XVIII**, p. 201.

**MENDEL, L. B., and W. W. HILDITCH.** The influence of alcohol upon metabolism, 1910, **XXV**, p. xi.

The influence of alcohol upon nitrogenous metabolism in men and animals, 1910, **XXVII**, p. 1.

**MENDEL, L. B., and D. R. HOOKER.** On the lymphagogic action of the strawberry, and on post-mortem lymph flow, 1902, **VII**, p. 380.**MENDEL, L. B., and H. C. JACKSON.** On some features of nitrogenous metabolism, 1900, **III**, p. iii.

On the excretion of kynurenic acid, 1898, **II**, p. 1.

On uric acid formation after splenectomy, 1900, **IV**, p. 163.

**MENDEL, L. B., and I. S. KLEINER.** The fate of saccharose after parenteral introduction in animals, 1910, **XXVI**, p. 396.**MENDEL, L. B., and P. H. MITCHELL.** Chemical studies on growth. I. — The inverting enzymes of the alimentary tract, especially in the embryo, 1907, **XX**, p. 81.

Chemical studies on growth. II. — The enzymes involved in purine metabolism in the embryo, 1907, **XX**, p. 97.

**MENDEL, L. B., and C. S. LEAVENWORTH.** Chemical studies on growth. III. — The occurrence of glycogen in the embryo pig, 1907, **XX**, p. 117.**MENDEL, L. B., and T. SAIKI.** Chemical studies on growth. IV. — The transformation of glycogen by the enzymes of embryonic tissues, 1908, **XXI**, p. 64.**MENDEL, L. B., and C. S. LEAVENWORTH.** Chemical studies on growth V. — The autolysis of embryonic tissues, 1908, **XXI**, p. 69.

Chemical studies on growth. VI. — Changes in the purine-, pentose-, and cholesterol-content of the developing egg, 1908, **XXI**, p. 77.

Chemical studies on growth. VII. — The catalase of animal embryonic tissues, 1908, **XXI**, p. 85.

Chemical studies on growth. VIII. — The occurrence of lipase in embryonic animal tissues, 1908, **XXI**, p. 95.



**MENDEL, L. B., and C. S. LEAVENWORTH.**

Chemical studies on growth. IX. — Notes on the composition of embryonic muscular and nervous tissues, 1908, **XXI**, p. 99.

**MENDEL, L. B., and P. H. MITCHELL.** On the utilization of various carbohydrates without intervention of the alimentary digestive processes, 1905, **XIV**, p. 239.**MENDEL, L. B., and V. C. MYERS.** The metabolism of some pyrimidine derivatives, 1910, **XXVI**, p. 77.**MENDEL, L. B., and R. NAKASEKO.** Contributions to the chemistry of the lymphatic glands, 1900, **IV**, p. xii.**MENDEL, L. B., and L. F. RETTGER.** Experimental observations on pancreatic digestion and the spleen, 1902, **VII**, p. 387.**MENDEL, L. B., and E. W. ROCKWOOD.** On the absorption and utilization of proteids without intervention of the alimentary digestive processes, 1904, **XII**, p. 336.**MENDEL, L. B., and E. C. SCHNEIDER.** Further experiments on the excretion of kynurenic acid, 1901, **V**, p. ix.

On the excretion of kynurenic acid (second paper), 1901, **V**, p. 427.

On the sulphocyanide-content of human saliva, 1900, **IV**, p. vii.

**MENDEL, L. B., with H. C. THACHER.** On secretion and lymph-flow, 1903, **IX**, p. xv.**MENDEL, L. B., and F. P. UNDERHILL.** Experiments on the physiological action and metabolism of anhydro-oxymethylene-diphosphoric acid (phytin acid), 1906, **XVII**, p. 75.

New experiments on the physiological action of the proteoses, 1903, **VIII**, p. xvi.

Observations on the products of papain and bromelin proteolysis, 1901, **V**, p. xiii.

On the paths of absorption from the liver, 1905, **XIV**, p. 252.

**MENDEL, L. B., F. P. UNDERHILL, and B. WHITE.** A physiological study of nucleic acid, 1903, **VIII**, p. 377.**MENDEL, L. B., and H. G. WELLS.** Experimental studies on the physiology of the molluscs, — fourth paper, 1909, **XXIV**, p. 170.**MENDEL, L. B., and B. WHITE.** On the intermediary metabolism of the purin bodies: the production of allantoin in the animal body, 1904, **XII**, p. 85.**MENDEL, L. B.** See CHITTENDEN, MENDEL, and HENDERSON, 1899, **II**, p. 142.

See CHITTENDEN, MENDEL, and JACKSON, 1898, **I**, p. 164.

See CHITTENDEN, MENDEL, and McDERMOTT, 1898, **I**, p. 255.

See LEVENE and MENDEL, 1900, **III**, p. iv.

See LEVENE and MENDEL, 1901, **VI**, p. 48.

See OSBORNE and MENDEL, 1904, **X**, p. xxxvi.

See OSBORNE and MENDEL, 1905, **XIII**, p. xxxii.

See OSBORNE and MENDEL, 1911, **XXVII**, p. xxvi.

See OSBORNE and MENDEL, 1912, **XXIX**, p. xii.



**MENDEL, L. B.**

See OSBORNE, MENDEL, and HARRIS, 1905, **XIV**, p. 259.

See WELLS and MENDEL, 1907, **XVIII**, p. 156.

**METCALF, C. R.** See PARKER and METCALF, 1906, **XVII**, p. 55.

**MEYER, G. M.** The elimination of barium, 1909, **XXV**, p. 142.

An improved animal holder, 1907, **XX**, p. 362.

**MEYER, G. M., and W. J. GIES.** A study of the coloring matters in the purple pitcher plant (*Sarracenia purpurea*), 1905, **XIII**, p. xxxiii.

**MEYER, G. M.** See CARREL, MEYER, and LEVENE, 1910, **XXV**, p. 439.

See CARREL, MEYER, and LEVENE, 1910, **XXVI**, p. 369.

See LEVENE and MEYER, 1909, **XXV**, p. 214.

See SALANT and MEYER, 1907, **XX**, p. 366.

**MILLER, F. R.** On the rhythmical contractility of the anal musculature of the crayfish, 1909, **XXIII**, p. xviii.

**MILLER, J. L., D. D. LEWIS, and S. A. MATTHEWS.** The effects of extracts of the different parts of the hypophysis, 1911, **XXVII**, p. xvii.

**MILLER, J. R.** See BRUCE, MILLER, and HOOKER, 1909, **XXIV**, p. 104.

**MILLIKEN, C. S., and P. G. STILES.** On the supposed equivalence of sodium and lithium ions in skeletal muscle, 1905, **XIV**, p. 359.

**MILLS, W.** Correlation of the functional and anatomical development of the cerebrum, 1899, **II**, p. xv.

**MILNER, R. D.** See BRYANT and MILNER, 1903, **X**, p. 81.

**MINOT, C. S.** An experiment in telogeny, 1900, **III**, p. xxxii.

**MINOT, G. R.** See FROTHINGHAM, JR., and MINOT, 1912, **XXX**, p. 430.

**MITCHELL, J. K.** Influence of massage upon the number of blood globules in the circulating blood, 1899, **II**, p. xxi.

**MITCHELL, P. H., and G. SMITH.** The physiological effects of alkaloids of *zygadenus intermedius*, 1911, **XXVIII**, p. 318.

**MITCHELL, P. H.** See MENDEL and MITCHELL, 1905, **XIV**, p. 239.

See MENDEL and MITCHELL, 1907, **XX**, pp. 81, 97.

**MOGK, W. A.** See WALLACE and MOGK, 1899, **II**, p. v.

**MOORE, A.** Are the contractions of the lymph hearts of the frog dependent upon centres situated in the spinal cord? 1901, **V**, p. 196.

The effect of ions on the contractions of the lymph hearts of the frog, 1901, **V**, p. 87.

Further evidence of the poisonous effects of a pure NaCl solution, 1900, **IV**, p. 386.

On the effects of solutions of various electrolytes and non-conductors upon rigor mortis and heat rigor, 1902, **VII**, p. 1.

On the power of  $\text{Na}_2\text{SO}_4$  to neutralize the ill effects of NaCl, 1902, **VII**, p. 315.

Some facts concerning geotropic gatherings of *Paramecia*, 1903, **IX**, p. 238.

**MOORE, A. R.** On the nervous mechanism of the righting movements of the starfish, 1910, **XXVII**, p. 207.

**MOORE, B.** On the functions of bile as a solvent, 1900, **III**, p. xiv.

**MOORE, B., and T. J. BERGIN.** On the chemical reaction of the intestinal

- contents to various indicators, and on the nature of the contents escaping from a fistula immediately above the ileo-cæcal valve, 1900, **III**, p. 316.
- MOORE, B., and H. OERTEL.** A comparative study of reflex action after complete section of the spinal cord in the cervical or upper dorsal region, 1899, **III**, p. 45.
- MOORE, B., and W. H. PARKER.** The osmotic properties of colloidal solutions, 1902, **VII**, p. 261.
- A study of the effects of complete removal of the mammary glands in relationship to lactose formation, 1900, **IV**, p. 239.
- MOORE, B., and C. O. PURINTON.** On cardiac thrombosis following complete removal of the suprarenal glands, 1900, **IV**, p. 51.
- On the absence of the active principle and chromogen of the suprarenal gland in the human embryo and in the child at birth, 1900, **IV**, p. 57.
- On the chromogen of the suprarenal medulla, and on its relationship to the active substance, 1900, **III**, p. xvi.
- On the effects of complete removal of the suprarenal glands, 1901, **V**, p. 182.
- On the effects of intravenous injection of minimal doses of suprarenal extract upon the arterial blood pressure, 1900, **III**, p. xv.
- MOORE, E. M.** See JENNINGS and MOORE, 1902, **VI**, p. 233.
- MOORE, GERTRUDE.** See FISCHER and MOORE, 1907, **XIX**, p. 314.
- See FISCHER and MOORE, 1907, **XX**, p. 330.
- MOORHOUSE, V. H. K.** Effect of increased temperature of the carotid blood, 1911, **XXVIII**, p. 223.
- The relationship of the sino-auricular node to auricular rhythmicity, 1912, **XXX**, p. 358.
- MORGAN, T. H.** The reflexes connected with autotomy in the hermit-crab, 1902, **VI**, p. 278.
- MORGULIS, S.** Contributions to the physiology of regeneration. V. — Regeneration of isolated segments and of small pieces of worms, 1911, **XXVII**, p. 415.
- MORRISON, A. W.** See GORHAM and MORRISON, 1910, **XXV**, p. 419.
- MOSER, A., and W. B. CANNON.** The movement of food in deglutition, 1898, **I**, p. xii.
- MOSER, A.** See CANNON and MOSER, 1898, **I**, p. 435.
- MOSTROM, H. T., and H. McGUIGAN.** Studies on the convulsive reflex produced by strychnine, 1912, **XXIX**, p. xxxv.
- MUCKEY, F. S.** See HALLOCK and MUCKEY, 1898, **I**, p. vi.
- MUHLBERG, W.** See PORTER and MUHLBERG, 1900, **III**, p. xxiv.
- See PORTER and MUHLBERG, 1900, **IV**, p. 334.
- MÜNSTERBERG, H.** The physiological basis of mental life, 1899, **II**, p. xx.
- MURBACH, L.** The static function in *Gonionemus*, 1904, **X**, p. 201.
- MURLIN, J. R.** Gelatine as a substitute for proteid in the food, 1905, **XIII**, p. xxix.
- The metabolism of development. I. — Energy metabolism in the pregnant dog, 1910, **XXVI**, p. 134.

**MURLIN, J. R.**

The metabolism of development. II. — Nitrogen balance during pregnancy and menstruation of the dog, 1910, **XXVII**, p. 177.

Metabolism of development. III. — Qualitative effects of pregnancy on the protein metabolism of the dog, 1911, **XXVIII**, p. 422.

The nutritive value of gelatin. I. — Substitution of gelatin for protein, with maintenance of nitrogen equilibrium at the fasting level, 1907, **XIX**, p. 285.

The nutritive value of gelatin. II. — Significance of glycoll and carbohydrate in sparing the body's protein, 1907, **XX**, p. 234.

Observations on the influence of carbohydrates on protein metabolism, 1908, **XXI**, p. xxi.

Protein metabolism in development, 1909, **XXIII**, p. xxxi.

The sparing action of gelatine, 1907, **XVIII**, p. xii.

Total (or energy) metabolism in development, 1909, **XXIII**, p. xxxii.

**MURLIN, J. R., and J. R. GREER.** The heart action in relation to the respiratory metabolism, 1911, **XXVII**, p. xviii.

**MURLIN, J. R.** See CARPENTER and MURLIN, 1910, **XXV**, p. xxvi.

**MURPHY, F. T.** See CANNON and MURPHY, 1906, **XV**, p. xxv.

**MUSKENS, L. J. J.** An analysis of the action of the vagus nerve on the heart, 1898, **I**, p. 486.

An instrument for measuring muscular tonicity in man, 1899, **II**, p. xxi.

**MUSTARD, H. J.** A study of certain tonic and reflex nervous impulses as factors in parathyroid tetany, 1912, **XXIX**, p. 311.

**MYERS, V. C., and G. O. VOLOVIC.** Metabolism in an experimental fever with special reference to the creatinin elimination, 1912, **XXIX**, p. xviii.

**MYERS, V. C.** See BENEDICT and MYERS, 1907, **XVIII**, pp. 377, 397, 406.

See MENDEL and MYERS, 1910, **XXVI**, p. 77.

**N**

**NAKASEKO, R.** Glycogen formation after inulin feeding, 1900, **IV**, p. 246.

See MENDEL and NAKASEKO, 1900, **IV**, p. xii.

**NEILSON, C. H.** Further evidence of the similarity between catalysis and enzyme action, 1906, **XV**, p. 148.

Further experiments on the antitoxic effect of ions, 1902, **VII**, p. 405.

The hydrolysis and synthesis of fats by platinum black, 1903, **X**, p. 191.

The inversion of starch by platinum black, 1906, **XV**, p. 412.

**NEILSON, C. H., and O. H. BROWN.** Effect of ions on the decomposition of hydrogen peroxide, and the hydrolysis of butyric ether by a watery extract of pancreas, 1904, **X**, p. 335.

The effects of ions on the decomposition of hydrogen peroxide by platinum black, 1904, **X**, p. 225.

Further proof of ion action in physiologic processes, 1904, **XII**, p. 374.

**NEILSON, C. H., and O. P. TERRY.** The adaptation of the salivary secretion to diet, 1906, **XV**, p. 406.

**NEILSON, C. H., and O. P. TERRY.**

The effect of certain salts and dextrose on the rate of transformation of glycogen into dextrose, 1905, **XIV**, p. 105.

The effect of hypnotics and antipyretics on the rate of catalysis of hydrogen dioxide by kidney extract, 1905, **XIV**, p. 248.

The effect of potassium iodide on the activity of ptyalin, 1908, **XXII**, p. 43.

**NEILSON, C. H.** See BROWN and NEILSON, 1905, **XIII**, p. 427.**NESBITT, B.** On the presence of cholin and neurin in the intestinal canal during its complete obstruction, 1899, **II**, p. viii.**NEWBURGH, L. H.** See PORTER, LAWRENCE, and NEWBURGH, 1906, **XV**, p. xxix.**NEWMAN, H. H.** The activity of the heart ganglion in the absence of oxygen, 1906, **XV**, p. xxxi.

On the respiration of the heart, with special reference to the heart of *Limulus*, 1906, **XV**, p. 371.

**NICE, L. B.** See CANNON and NICE, 1912, **XXIX**, p. xxiv.**NICHOLL, R. H.** See MATHEWS and NICHOLL, 1908, **XXI**, p. xxvi.**NOLAN, F. W.** See REILLY, NOLAN, and LUSK, 1898, **I**, p. 395.**NORMAN, W. W.** Do the reactions of the lower animals against injury indicate pain sensations? 1900, **III**, p. 271.**NOVY, F. G.** On the surface action of metals, 1902, **VI**, p. xxvi.**O****OERTEL, H.** See MOORE and OERTEL, 1899, **III**, p. 45.**OLDS, W. H. Jr.** The effects of thyroidectomy on the resistance of rats to morphine poisoning, 1910, **XXVI**, p. 354.**OPITZ, R. BURTON.** A comparative study of the viscosity of the blood, 1902, **VII**, p. 243.

The flow of the blood in the external jugular vein, 1902, **VII**, p. 435.

Muscular contraction and the venous blood-flow, 1903, **IX**, p. 161.

On the vasomotor nerves of the spleen, 1909, **XXIII**, p. xxxvii.

Venous pressures, 1903, **IX**, p. 198.

**OPITZ, R. BURTON., and D. R. LUCAS.** The influence of the left splanchnicus major upon the vascularity of the normal right and the denerved left kidney, 1909, **XXIII**, p. xxxvii.**ORMOND, J. K.** See HAGAN and ORMOND, 1912, **XXIX**, p. xi.

See HAGAN and ORMOND, 1912, **XXX**, p. 105.

**OSBORNE, T. B.** The specific rotation of the nucleic acid of the wheat embryo, 1903, **IX**, p. 69.

A type of reaction by which sodium carbonate and hydrochloric acid may be formed in the animal organism, 1901, **V**, p. 180.

**OSBORNE, T. B., and S. H. CLAPP.** The chemistry of the protein bodies of the wheat kernel. Part III, 1906, **XVII**, p. 231.

Hydrolysis of amandin from the almond, 1908, **XX**, p. 470.

Hydrolysis of excelsin, 1907, **XIX**, p. 53.

**OSBORNE, T. B., and S. H. CLAPP.**

The hydrolysis of gliadin from rye, 1908, **XX**, p. 494.

Hydrolysis of glycinin from the soy bean, 1907, **XIX**, p. 468.

Hydrolysis of hordein, 1907, **XIX**, p. 117.

Hydrolysis of phaseolin, 1907, **XVIII**, p. 295.

Hydrolysis of the crystalline globulin of the squash seed (*Cucurbita maxima*), 1907, **XIX**, p. 475.

Hydrolysis of the proteins of maize, *Zea mays*, 1908, **XX**, p. 477.

A new decomposition product of gliadin, 1907, **XVIII**, p. 123.

**OSBORNE, T. B., and R. D. GILBERT.** The proportion of glutaminic acid yielded by various vegetable proteins when decomposed by boiling with hydrochloric acid, 1906, **XV**, p. 333.**OSBORNE, T. B., and I. F. HARRIS.** The chemistry of the protein bodies of the wheat kernel. Part I. — The protein soluble in alcohol and its glutaminic acid content, 1905, **XIII**, p. 35.

The chemistry of the protein bodies of the wheat kernel. Part II, 1906, **XVII**, p. 223.

The precipitation limits with ammonium sulphate of some vegetable proteins (second paper), 1905, **XIII**, p. 436.

The solubility of globulin in salt solution, 1905, **XIV**, p. 151.

**OSBORNE, T. B., and F. W. HEYL.** Hydrolysis of chicken meat, 1908, **XXII**, p. 433.

Hydrolysis of fish muscle, 1908, **XXIII**, p. 81.

Hydrolysis of vetch legumin, 1908, **XXII**, p. 423.

Hydrolysis of vignin of the cow-pea (*Vigna sinensis*), 1908, **XXII**, p. 362.

The pyrimidine derivatives in nucleic acid, 1908, **XXI**, p. 157.

The pyrimidine derivatives in triticonucleic acid, 1908, **XXI**, p. xxi.

**OSBORNE, T. B., and D. B. JONES.** A consideration of the sources of loss in analyzing the products of protein hydrolysis, 1910, **XXVI**, p. 305.

Hydrolysis of ox muscle, 1909, **XXIV**, p. 437.

Hydrolysis of the muscle of scallop (*Pectens irradians*), 1909, **XXIV**, p. 161.

Hydrolysis of vitellin from the hen's egg, 1909, **XXIV**, p. 153.

Some modifications of the method in use for determining the quantity of mono-amino-acids yielded by proteins when hydrolyzed with acids, 1910, **XXVI**, p. 212.

**OSBORNE, T. B., D. B. JONES, and C. S. LEAVENWORTH.** Hydrolysis of crystallized albumin from hen's egg, 1909, **XXIV**, p. 252.**OSBORNE, T. B., C. S. LEAVENWORTH, and C. A. BRAUTLECHT.** The different forms of nitrogen in proteins, 1908, **XXIII**, p. 180.**OSBORNE, T. B., and L. M. LIDDLE.** Notes on the analysis of edestin and zein, 1910, **XXVI**, p. 295.

The separation and estimation of aspartic and glutaminic acids, 1910, **XXVI**, p. 420.

**OSBORNE, T. B., and L. B. MENDEL.** Feeding experiments with mixtures of isolated food substances, 1911, **XXVII**, p. xxvi.

- OSBORNE, T. B., and L. B. MENDEL.**  
Further studies on ricin, 1905, **XIII**, p. xxxii.  
Ricin, 1904, **X**, p. xxxvi.  
The rôle of proteins in growth, 1912, **XXIX**, p. xii.
- OSBORNE, T. B., L. B. MENDEL, and I. F. HARRIS.** A study of the proteins of the castor bean, with special reference to the isolation of ricin, 1905, **XIV**, p. 259.
- OSGOOD, R. B.** See **GOLDTHWAIT, PAINTER, OSGOOD, and McCRUDDEN**, 1905, **XIV**, p. 389.
- OSTERBERG, E., and C. G. L. WOLF.** Protein metabolism in the dog. **II.** — The influence of low caloric values of nitrogen on metabolism, 1908, **XXI**, p. xiii.
- OSTERBERG, E.** See **BENEDICT and OSTERBERG**, 1900, **IV**, p. 69.  
See **WOLF and OSTERBERG**, 1911, **XXVIII**, p. 71.
- OSTERHAUT, W. J. V.** The effect of anæsthetics on permeability, 1912, **XXIX**, p. xi.
- OTTEN, H., and T. C. GALLOWAY, Jr.** The relation of the pancreas to the blood diastases in the dog, 1910, **XXVI**, p. 347.

## P

- PACKARD, W. H.** The effect of carbohydrates on resistance to lack of oxygen, 1907, **XVIII**, p. 164.  
Further studies on resistance to lack of oxygen, 1908, **XXI**, p. 310.  
On resistance to lack of oxygen and on a method of increasing this resistance, 1905, **XV**, p. 30.
- PAINTER, C. F.** See **GOLDTHWAIT, PAINTER, OSGOOD, and McCRUDDEN**, 1905, **XIV**, p. 389.
- PARKER, F. H.** See **LUSK and PARKER**, 1899, **II**, p. xiv.
- PARKER, G. H.** The integumentary nerves of fishes as photoreceptors and their significance for the origin of the vertebrate eyes, 1909, **XXV**, p. 77.  
The olfactory sense of fishes, 1911, **XXVII**, p. xix.  
The reversal of ciliary movement in metazoans, 1905, **XIII**, pp. 1, xiii.  
The reversal of the effective stroke of the labial cilia of sea-anemones by organic substances, 1905, **XIV**, p. 1.  
The skin and the eyes as receptive organs in the reactions of frogs to light, 1903, **X**, p. 28.  
The stimulation of the integumentary nerves of fishes by light, 1905, **XIV**, p. 413.
- PARKER, G. H., and L. ARKIN.** The directive influence of light on the earthworm *Allolobophora fætida* (Sav.), 1901, **V**, p. 151.
- PARKER, G. H., and F. L. BURNETT.** The reactions of planarians, with and without eyes, to light, 1900, **IV**, p. 373.
- PARKER, G. H., and C. R. METCALF.** The reactions of earthworms to salts:

- a study in protoplasmic stimulation as a basis of interpreting the sense of taste, 1906, **XVII**, p. 55.
- PARKER, W. H.** The occurrence and origin of the xanthine bases in the fæces, 1900, **IV**, p. 83.
- PARKER, W. H., and G. LUSK.** On the maximum production of hippuric acid in rabbits, 1900, **III**, p. 472.
- PARKER, W. H.** See **MOORE and PARKER**, 1900, **IV**, p. 239.  
See **MOORE and PARKER**, 1902, **VII**, p. 261.
- PATRICK, G. T. W.** Confusion of tastes and odors, 1890, **II**, p. xx.
- PATTEN, A. J.** See **JORDAN, HART, and PATTEN**, 1906, **XVI**, p. 268.
- PATTEN, J. B., and P. G. STILES.** On the influence of neutral salts upon the rate of salivary digestion, 1906, **XVII**, p. 26.
- PATTEN, W.** A basis for a theory of color vision, 1898, **I**, p. xv.
- PEARCE, R. G.** See **MACLEOD and PEARCE**, 1910, **XXV**, p. 255.  
See **MACLEOD and PEARCE**, 1911, **XXVII**, p. 341.  
See **MACLEOD and PEARCE**, 1911, **XXVIII**, p. 403.  
See **MACLEOD and PEARCE**, 1912, **XXIX**, p. 419.
- PEARCE, R. M., and A. B. EISENBREY.** The mechanism of the depressor action of dog's urine, with some observations on the antagonistic action of adrenalin, 1910, **XXVI**, p. 26.
- PEARL, R.** Studies on the effects of electricity on organisms. **II.**—The reactions of Hydra to the constant current, 1901, **V**, p. 301.  
Studies on electrotaxis. **I.**—On the reactions of certain infusoria to the electric current, 1900, **IV**, p. 96.
- PEARL, R., and F. M. SURFACE.** Resection and end-to-end anastomosis of the oviduct in the hen, without loss of function, 1908, **XXII**, p. 357.
- PESKIND, S.** The action of acids and acid-salts on blood corpuscles and some other cells, 1902, **VIII**, p. 99; 1903, **VIII**, p. 404.  
Ether-laking: a contribution to the study of laking agents that dissolve lecithin and cholesterin, 1904, **XII**, p. 184.
- PETERS, A. W.** Chemical studies on the cell and its medium. **I.**—Methods for the study of liquid culture media, 1907, **XVII**, p. 443.  
Chemical studies on the cell and its medium. **II.**—Some chemico-biological relations in liquid culture media, 1907, **XVIII**, p. 321.  
Chemical studies on the cell and its medium. **III.**—The function of the inorganic salts of the protozoan cell and its medium, 1908, **XXI**, p. 105.
- PFÄFF, F., and M. P. O. VEJUX-TYRODE.** Artificial circulation in the isolated kidney, 1900, **IV**, p. xv.
- PIKE, F. H.** The mechanism of the asphyxial rise of blood pressure in the spinal animal, 1911, **XXVII**, p. xxii.  
Studies in the physiology of the central nervous system. **I.**—The general phenomena of spinal shock, 1909, **XXIX**, p. 124.  
Studies in the physiology of the central nervous system. **II.**—The effect of repeated injuries to the spinal cord during spinal shock, 1912, **XXX**, p. 436.  
Studies in the resuscitation of the central nervous system, 1908, **XXI**, p. xxvi.



- PIKE, F. H., C. C. GUTHRIE, and G. N. STEWART.** Studies in resuscitation.  
 II. — The reflex excitability of the brain and spinal cord after cerebral  
 anæmia, 1908, **XXI**, p. 359.  
 Studies in resuscitation. III. — The resuscitation of the glands and muscles  
 after temporary anæmia, 1908, **XXII**, p. 51.
- PIKE, F. H.** See GUTHRIE and PIKE, 1906, **XVI**, p. 475.  
 See GUTHRIE and PIKE, 1907, **XVIII**, p. 14.  
 See GUTHRIE and PIKE, 1908, **XX**, p. 451.  
 See GUTHRIE, PIKE, and STEWART, 1906, **XVII**, p. 344.  
 See STEWART and PIKE, 1907, **XIX**, p. 328.  
 See STEWART and PIKE, 1907, **XX**, p. 61.
- PILCHER, J. D.** See SOLLMANN and PILCHER, 1910, **XXVI**, p. 233.  
 See SOLLMANN and PILCHER, 1911, **XXIX**, p. 100.  
 See SOLLMANN and PILCHER, 1912, **XXX**, pp. 303, 369.
- PILLSBURY, W. B.** See LOMBARD and PILLSBURY, 1899, **III**, pp. 186, 201.
- PLANT, O. H.** Experiments on the absorption of fat from an isolated loop of  
 small intestine in healthy dogs, 1908, **XXIII**, p. 65.
- POND, R. H.** Solution tension and toxicity in lipolysis, 1907, **XIX**, p. 258.
- PORTER, W. T.** Apparatus for laboratory work by large classes, 1900, **III**,  
 p. xxxii.  
 The coördination of the ventricles, 1899, **II**, p. 127.  
 Demonstration of apparatus, 1902, **VI**, p. xxv.  
 The effect of uniform afferent impulses upon the blood pressure at different  
 levels, 1907, **XX**, p. 399.  
 An exhibition of physiological apparatus, 1905, **XIII**, p. xxxvii.  
 An improved kymograph, 1904, **X**, p. xxxix.  
 An improved kymograph, 1908, **XXI**, p. xxvii.  
 The influence of the heart-beat on the flow of blood through the walls of  
 the heart, 1898, **I**, p. 145.  
 The mechanism of fibrillar contraction of the heart, 1902, **VI**, p. xxv.  
 A method for the study of the vasomotor nerves of the heart and other organs,  
 1912, **XXIX**, p. xxxi.  
 "Muscle warmer," 1904, **X**, p. xliii.  
 New experiments on the mammalian heart, 1898, **I**, p. xiv.  
 New inductorium, kymograph, heart lever, heavy muscle lever, and square  
 rheochord, 1903, **VIII**, p. xxxv.  
 A new method for the study of the isolated mammalian heart, 1898, **I**,  
 p. 511.  
 The recovery of the heart from fibrillary contractions, 1898, **I**, p. 71.  
 The relation of afferent impulses to the vasomotor centres, 1910, **XXVII**,  
 p. 276.  
 Respiration scheme, 1904, **X**, p. xlii.  
 Studies in the physiology of muscle. I. — Observations on the tonus of  
 heart muscle, 1905, **XV**, p. 1.  
 The tonus of heart muscle, 1903, **VIII**, p. xxvi.

- PORTER, W. T., and H. G. BEYER.** The relation of the depressor nerve to the vasomotor centre, 1900, **III**, p. xxiii.  
 The relation of the depressor nerve to the vasomotor centre, 1900, **IV**, p. 283.  
 The vasomotor nerves of the heart, 1900, **III**, p. xxiv.
- PORTER, W. T., and W. I. CLARK.** On differences between the bulbar and spinal vasomotor cells, 1908, **XXI**, p. xv.
- PORTER, W. T., C. FROTHINGHAM, Jr., and W. E. LADD.** On co-ordination of the ventricles of the heart, 1904, **X**, p. xvi.
- PORTER, W. T., and F. H. LAMB.** The curve of lessening conductivity during increasing tonus of the heart, 1905, **XIII**, p. xxiii.
- PORTER, W. T., C. H. LAWRENCE, Jr., and L. H. NEWBURGH.** The relation of tonus contraction to conduction in smooth muscle, 1906, **XV**, p. xxix.
- PORTER, W. T., and H. K. MARKS.** The effect of hemorrhage upon the vasomotor reflexes, 1908, **XXI**, p. 460.
- PORTER, W. T., H. K. MARKS, and J. B. SWIFT, Jr.** The relation of afferent impulses to fatigue of the vasomotor centre, 1907, **XX**, p. 444.
- PORTER, W. T., and W. MUHLBERG.** Experiments concerning the prolonged inhibition said to follow injury of the spinal cord, 1900, **IV**, p. 334.  
 Spinal respiration, 1900, **III**, p. xxiv.
- PORTER, W. T., and F. H. PRATT.** On the interval between the minimal and maximal fall in blood pressure following stimulation of the depressor nerve, 1909, **XXIII**, p. xxxv.  
 The reactions of peripheral vasomotor areas, 1908, **XXI**, p. xvi.
- PORTER, W. T., and W. C. QUINBY.** The condition of the vasoconstrictor neurons in "shock," 1904, **X**, p. xii.  
 Further data regarding the condition of the vasomotor neurons in shock, 1908, **XX**, p. 500.
- PORTER, W. T., and R. RICHARDSON.** A comparative study of vasomotor reflexes, 1908, **XXI**, p. xv.  
 A comparative study of the vasomotor reflexes, 1908, **XXIII**, p. 131.  
 Maximum vasomotor reflexes obtained by stimulating portions of the sciatic nerve, 1909, **XXIII**, p. xxxv.  
 On the interval between the minimal and maximal rise in blood pressure following stimulation of the sciatic nerve, 1909, **XXIII**, p. xxxiv.
- PORTER, W. T., and T. A. STOREY.** The effect of cerebral injuries on the bulbar vasomotor centre, 1905, **XIII**, p. xxii.  
 The effect of injuries of the brain on the vasomotor centre, 1907, **XVIII**, p. 181.
- PORTER, W. T., and A. H. TURNER.** On the crossing of the respiratory impulse at the level of the phrenic nuclei, 1912, **XXIX**, p. xxxi.
- PORTER, W. T.** See STOREY and PORTER, 1904, **X**, p. xlv.
- POSNER, E. R., and W. J. GIES.** Are proteids which are prepared by the usual methods combined with fat or fatty acid? 1902, **VI**, p. xxix.  
 Do the mucoids combine with other proteids? 1904, **XI**, p. 404.

**POSNER, E. R., and W. J. GIES.**

Experiments to determine the possible admixture or combination of fat or fatty acid with various proteid products, 1902, **VII**, p. 331.

A further study of protagon, 1905, **XIII**, p. xxxv.

The influence of hemorrhage on the formation and composition of lymph, 1904, **X**, p. xxxi.

A preliminary study of the digestibility of connective tissue mucoids in pepsin-hydrochloric acid, 1904, **XI**, p. 330.

**POWELL, W. H.** See CARLSON, WOELFEL, and POWELL, 1909, **XXIII**, p. xxiii.

See CARLSON, WOELFEL, and POWELL, 1911, **XXVIII**, p. 176.

**PRATT, F. H.** The nutrition of the heart through the vessels of Thebesius and the coronary veins, 1898, **I**, p. 86.

See PORTER and PRATT, 1908, **XXI**, p. xvi.

See PORTER and PRATT, 1909, **XXIII**, p. xxxv.

**PURINTON, C. O.** See MOORE and PURINTON, 1900, **III**, pp. xv, xvi.

See MOORE and PURINTON, 1901, **V**, p. 182.

## Q

**QUINBY, W. C.** See PORTER and QUINBY, 1904, **X**, p. xii.

See PORTER and QUINBY, 1908, **XX**, p. 500.

## R

**RACHFORD, B. K.** The diastatic action of pancreatic juice, 1899, **II**, p. 483.**RAND, GERTRUDE.** See FERREE and RAND, 1912, **XXIX**, p. 398.**RAY, W. E., T. S. McDERMOTT, and G. LUSK.** On metabolism during a combination of phosphorus poisoning and phlorhizin diabetes, 1899, **III**, p. 139.**REFORD, L. L., and H. CUSHING.** Is the pituitary gland essential to the maintenance of life? 1909, **XXIII**, p. xxvii.**REICHERT, E. T.** The influences of digestion on animal heat processes, 1900, **IV**, p. 397.

Inhibitory phenomena in the crystallization of oxyhæmoglobin, 1903, **VIII**, p. xlii.

New crystalline forms of oxyhæmoglobin artificially produced, 1903, **IX**, p. xviii.

A new rheochord, 1900, **IV**, p. xv.

A new rheotome, 1901, **V**, p. xvii.

Quick methods for crystallizing oxyhæmoglobin: inhibitory and accelerator phenomena, etc.: changes in the form of crystallization, 1903, **IX**, p. 97.

Quick methods for the crystallization of the oxyhæmoglobin of the blood of the dog and certain other species, 1903, **VIII**, p. xlii.

A rheochord, 1901, **V**, p. xvii.

A second coagulation of the blood due to a substance not identical with

- fibrinogen, and coagulable by saturation with neutral oxalate, 1905, **XIII**, p. xxxvii.
- A student's laboratory table, 1901, **V**, p. xvii.
- A universal artificial respiration device, 1900, **III**, p. xxxii.
- REILLY, F. H., F. W. NOLAN, and G. LUSK.** Phlorhizin diabetes in dogs, 1898, **I**, p. 395.
- RETTGER, L. F.** An experimental study of the chemical products of bacillus coli communis and bacillus lactis aerogenes, 1903, **VIII**, p. 284.
- Experiments on the relation between the spleen and the pancreas, 1902, **VI**, p. xiv.
- The formation of film on heated milk, 1902, **VII**, p. 325.
- The liberation of volatile sulphide from milk on heating, 1902, **VI**, p. 450.
- See MENDEL and RETTGER, 1902, **VII**, p. 387.
- RETTGER, L. J.** The coagulation of blood, 1909, **XXIV**, p. 406.
- REYNOLDS, E., and R. W. LOVETT.** A method of determining the position of the centre of gravity in its relation to certain bony landmarks in the erect position, 1909, **XXIV**, p. 286.
- RICHARDS, A. N., and W. J. GIES.** Chemical studies of elastin, mucoid, and other proteids in elastic tissue, with some notes on ligament extractives, 1902, **VII**, p. 93.
- Methods of preparing elastin, with some facts regarding ligament mucin, 1901, **V**, p. xi.
- RICHARDS, A. N.** See CHITTENDEN and RICHARDS, 1898, **I**, p. 461.
- See GIES and RICHARDS, 1900, **III**, p. v.
- See HERTER and RICHARDS, 1904, **XII**, p. 207.
- See VOSBURGH and RICHARDS, 1903, **IX**, p. 35.
- RICHARDSON, R.** See PORTER and RICHARDSON, 1908, **XXI**, p. xv.
- See PORTER and RICHARDSON, 1908, **XXIII**, p. 131; 1909, **XXIII**, pp. xxxiv, xxxv.
- RICHE, J. A.** See BENEDICT, EMMES, and RICHE, 1911, **XXVII**, p. 383.
- See BENEDICT, RICHE, and EMMES, 1910, **XXVI**, p. 1.
- See EMMES and RICHE, 1911, **XXVII**, p. 406.
- See WILLIAMS, RICHE, and LUSK, 1912, **XXIX**, p. xxxiii.
- RIDDLE, O.** The rate of digestion in cold-blooded vertebrates. — The influence of season and temperature, 1909, **XXIV**, p. 447.
- RIDDLE, O., and S. A. MATTHEWS.** The blood pressures of birds and their modification by drugs, 1907, **XIX**, p. 108.
- RIGGINS, E. N.** See DAWSON and RIGGINS, 1902, **VI**, p. xxi.
- RINGER, A. I., and G. LUSK.** The production of sugar from amino acids, 1910, **XXV**, p. xix.
- ROBB, L. G.** See DEASON and ROBB, 1911, **XXVIII**, p. 57.
- ROCKWOOD, E. W.** The elimination of endogenous uric acid, 1904, **XII**, p. 38.
- The influence of the isomers of salicylic acid on metabolism, 1909, **XXV**, p. 34.

**ROCKWOOD, E. W.**

The utilization of vegetable proteids by the animal organism, 1904, **XI**, p. 355.

**ROCKWOOD, E. W.**, and **C. VAN EPPS**. The influence of some medicinal agents on the elimination of uric acid and creatinin, 1907, **XIX**, p. 97.

**ROCKWOOD, E. W.** See **MENDEL** and **ROCKWOOD**, 1904, **XII**, p. 336.

**ROGERS, C. G.** Studies upon the temperature coefficient of the rate of heart beat in certain living animals, 1911, **XXVIII**, p. 81.

**ROOD, O. N.** On the flicker photometer, 1899, **II**, p. xx.

**ROOKS, J. R.** See **CARLSON**, **ROOKS**, and **McKIE**, 1911, **XXVII**, p. xiii.

See **CARLSON**, **ROOKS**, and **McKIE**, 1912, **XXX**, p. 129.

**ROSS, E. L.**, and **P. B. HAWK**. Further studies on the metabolic influence of ether anæsthesia, 1912, **XXIX**, p. xvii.

**ROTH, G. B.** See **EDMUNDS** and **ROTH**, 1908, **XXI**, p. xxvi.

See **EDMUNDS** and **ROTH**, 1908, **XXIII**, pp. 28, 46.

**RUEDIGER, W. C.** See **FRANZ** and **RUEDIGER**, 1910, **XXVII**, p. 45.

**RUH, H. O.** See **MACLEOD** and **RUH**, 1908, **XXII**, p. 397.

**RUSSELL, B.**, and **W. J. GIES**. On the composition of nasal mucous membrane, 1906, **XV**, p. xxiii.

**RUSSELL, D. G.** See **HENDERSON** and **RUSSELL**, 1912, **XXIX**, p. 436.

**RUTHERFORD, T. A.** See **HAWK** and **RUTHERFORD**, 1906, **XV**, p. xxxi.

**RYAN, A. H.**, and **C. C. GUTHRIE**. Control of spasms by asphyxiation, 1908, **XXII**, p. 440.

**RYAN, A. H.** See **GUTHRIE** and **RYAN**, 1910, **XXVI**, p. 329.

**RYAN, J. G.** The presence of glucose in saliva, 1908, **XXI**, p. xxv.

The variations in the enzyme concentration with the variation in the blood supply to the secreting gland, 1909, **XXIV**, p. 234.

See **CARLSON** and **RYAN**, 1908, **XXI**, p. 301.

See **CARLSON** and **RYAN**, 1908, **XXII**, p. 1.

**RYAN, L. A.**, and **E. B. MEIGS**. The chemical constituents of the ash of smooth muscle, 1912, **XXIX**, p. xv.

**S**

**SAIKI, T.** See **MENDEL** and **SAIKI**, 1908, **XXI**, p. 64.

**SALANT, W.** The effect of alcohol on the secretion of bile, 1906, **XVII**, p. 408.

**SALANT, W.**, and **G. M. MEYER**. The elimination of radium from normal and nephrectomized animals, 1907, **XX**, p. 366.

**SALANT, W.** See **LEE** and **SALANT**, 1902, **VI**, p. xiii.

See **LEE** and **SALANT**, 1902, **VIII**, p. 61.

See **MELTZER** and **SALANT**, 1903, **VIII**, p. xlii.

**SANSUM, W. D.** Extra-systoles in the mammalian heart caused by the stimulation of the Keith-Flack node, 1912, **XXX**, p. 421.

**SCARBROUGH, M. McR.**, and **Y. HENDERSON**. Apnoea vera in anæsthesia, 1910, **XXV**, p. xiii.

- SCARBROUGH, M. McR. See HENDERSON and SCARBROUGH, 1905, **XIII**, p. xxiv.  
See HENDERSON and SCARBROUGH, 1910, **XXVI**, p. 260.
- SCHIEDT, R. C. Some phenomena of animal pigmentation, 1904, **X**, p. 365.
- SCHNEIDER, E. C. A nutrition investigation on the insoluble carbohydrates or marc of the apple, 1912, **XXX**, p. 258.  
On the variations in the sulphocyanide content of human saliva, 1901, **V**, p. 274.
- SCHNEIDER, E. C., and C. A. HEDBLUM. Blood pressure with special reference to high altitudes, 1908, **XXIII**, p. 90.
- SCHNEIDER, E. C. See MENDEL and SCHNEIDER, 1900, **IV**, p. vii.  
See MENDEL and SCHNEIDER, 1901, **V**, p. ix.
- SCHREINER, O., and M. X. SULLIVAN. Biological analogies in soil oxidation, 1911, **XXVII**, p. xxv.
- SCHULTZ, W. H. The effect of chloral hydrate upon the properties of heart muscle, 1906, **XVI**, p. 483.  
Studies in heart muscle.—The refractory period and the period of varying irritability, 1908, **XXII**, p. 133.
- SCOTT, E. L. On the influence of intravenous injections of an extract of the pancreas on experimental pancreatic diabetes, 1912, **XXIX**, p. 306.
- SCRIPTURE, E. W. Methods of demonstrating the physiology and psychology of color, 1899, **II**, p. xx.
- SEIFERT, C., and W. J. GIES. On the distribution of osseomucoid, 1903, **X**, p. 146.
- SHACKELL, L. F. An improved method of desiccation, with some applications to biological problems, 1909, **XXIV**, p. 325.
- SHAFER, G. D. Kidney secretion of indigo carmine, methylene blue, and sodium carminate, 1908, **XXII**, p. 335.
- SHAFFER, P. A. The destruction of body protein in fever, 1909, **XXIII**, p. xxxvii. Diminished muscular activity and protein metabolism, 1908, **XXII**, p. 445.  
The excretion of kreatinin and kreatin in health and disease, 1908, **XXIII**, p. 1.  
Metabolism experiments upon a woman with a permanent biliary fistula, 1906, **XVII**, p. 362.  
On the quantitative determination of ammonia in urine, 1903, **VIII**, p. 330.  
Some observations on the enzyme catalase, 1905, **XIV**, p. 299.
- SHAFFER, P. A. See BEEBE and SHAFFER, 1905, **XIV**, p. 231.  
See FOLIN and SHAFFER, 1902, **VII**, p. 135.  
See WOLF and SHAFFER, 1907, **XIX**, p. xiii.
- SHAKLEE, A. O., and S. J. MELTZER. The destructive effect of shaking upon the proteolytic ferments, 1909, **XXV**, p. 81.  
The mechanical destruction of pepsin, 1909, **XXIII**, p. xxix.
- SHEPARD, J. F. I.—Cerebral circulation in sleep; II.—Methods and results of blood pressure measurements, 1909, **XXIII**, p. xii.

- SHERMAN, H. C., and P. B. HAWK.** On the elimination of nitrogen, sulphates, and phosphates after the ingestion of proteid food, 1900, **IV**, p. 25.
- SHOHL, A. T.** See CANNON, SHOHL, and WRIGHT, 1911, **XXIX**, p. 280.
- SIBLER, C.** Disputed points in the histology of the submaxillary gland and their physiological significance, 1908, **XXI**, p. xix.
- SICHER, D. F.** See MENDEL and SICHER, 1906, **XVI**, p. 147.
- SIMPSON, S.** Are the parathyroids capable of replacing the thyroids functionally? 1911, **XXVII**, p. xxvii.  
The intracental portion of the seventh nerve root demonstrated by indirect Wallerian degeneration, 1909, **XXIII**, p. xxxvii.  
Temperature regulation in the woodchuck (*Marmotta monax*), 1912, **XXIX**, p. xii.
- SIMPSON, S.** See KING and SIMPSON, 1909, **XXIII**, p. xiv.
- SKAER, W. F.** See GREENE and SKAER, 1912, **XXIX**, p. xxxvii.
- SLADE, H. B.** Note on the preparation of nucleic acid, 1905, **XIII**, p. 464.
- SMITH, A. C.** The influence of temperature, odors, light and contact on the movements of the earthworm, 1902, **VI**, p. 459.
- SMITH, G.** The effect of pigment-migration on the phototropism of *Gammarus annulatus* S. I. Smith, 1905, **XIII**, p. 205.
- SMITH, G.** See MITCHELL and SMITH, 1911, **XXVIII**, p. 318.
- SNYDER, C. D.** A comparative study of the temperature coefficients of the velocities of various physiological actions, 1908, **XXII**, p. 309.  
Demonstration of the thread galvanometer and some of its applications in physiology, 1909, **XXIII**, p. xxxvii.  
The influence of temperature upon the rate of heart beat in the light of the law for chemical reaction velocity. II., 1906, **XVII**, p. 350.  
The latency of knee-jerk response in man as measured by the thread galvanometer, 1910, **XXVI**, p. 474.  
On the meaning of variation in the magnitude of temperature coefficients of physiological processes, 1911, **XXVIII**, p. 167.  
The temperature coefficient of nervous conduction as determined on the ischiadicus of the frog, 1908, **XXI**, p. xxvi.  
The temperature coefficient of the velocity of nerve conduction (second communication), 1908, **XXII**, p. 179.  
Why do temperature coefficients of physiological processes increase for the lower ranges and decrease for the higher ranges of temperature? 1910, **XXV**, p. xxvii.
- SNYDER, C. D., and M. H. TODD.** The viscosity of body fluids at various temperatures within physiological limits, 1911, **XXVIII**, p. 161.
- SOLLMANN, T.** The acute effects of gastric and peritoneal cauterization on blood pressure and respiration, 1907, **XIX**, p. xv.  
The cause of the greater diuretic action of hyperisotonic salt-solutions, 1903, **IX**, p. xiii.  
The combination of formaldehyde with Witte's peptone, 1902, **VII**, p. 220.  
The comparative diuretic effect of saline solutions, 1903, **IX**, p. 454.



**SOLLMANN, T.**

- The effect of blood on the blood vessels of the kidney, 1905, **XIII**, p. xxxi.
- The effect of diuretics, nephritic poisons, and other agencies on the chlorides of the urine, 1903, **IX**, p. 425.
- The effect of saline injections, diuretics, and nephritic poisons on the chloride-content of the urine in the dog, 1903, **IX**, p. xii.
- The effects of a series of poisons on adult and embryonic Funduli, 1906, **XVI**, p. 1.
- The effects of isotonic solutions on the kidney, 1905, **XIII**, p. xxx.
- The mechanism of the retention of chlorides: a contribution to the theory of urine secretion, 1902, **VIII**, p. 155.
- Observations on human chyle, 1907, **XVII**, p. 487.
- Perfusion experiments on excised kidneys, 1905, **XIII**, pp. 241, 253, 278, 286, 289, 291, xxxi.
- Perfusion experiments on excised kidneys — solutions of electrolytes, 1907, **XIX**, p. xviii.
- Perfusion experiments on excised kidneys. VII. — Solutions of electrolytes, 1907, **XIX**, p. 233.
- The revival of the excised mammalian heart by perfusion with oil, 1906, **XV**, p. 121.
- The simultaneous action of pilocarpine and atropine on the developing embryos of the sea-urchin and starfish. — A contribution to the study of the antagonistic action of poisons, 1904, **X**, pp. 352, xliii.
- Structural changes of ova in anisotonic solutions and saponin, 1904, **XII**, p. 99.
- Witte's peptone: its dissociation, and its combination with acid and alkali, 1902, **VII**, p. 203.
- SOLLMANN, T., and E. D. BROWN.** The blood pressure fall produced by traction on the carotid artery, 1912, **XXX**, p. 88.
- Pharmacologic investigations on thorium, 1907, **XVIII**, p. 426.
- SOLLMANN, T., E. D. BROWN, and W. W. WILLIAMS.** The acute effects of gastric and peritoneal cauterization and irritation on the blood pressure and respiration, 1907, **XX**, p. 74.
- SOLLMANN, T., and P. J. HANZLIK.** Post-mortem absorption through lymphatic vessels, 1912, **XXIX**, p. xxx.
- SOLLMANN, T., and R. A. HATCHER.** Perfusion experiments on excised kidneys. IX. — The effects of various poisons, 1908, **XXI**, p. 37.
- The physical factors concerned in urine formation, 1904, **X**, p. xxv.
- SOLLMANN, T., and J. D. PILCHER.** The reaction of the vasomotor centre to asphyxia, 1911, **XXIX**, p. 100.
- The reaction of the vasomotor centre to sciatic stimulation and to curare, 1910, **XXVI**, p. 233.
- The reaction of the vasomotor centre to section and stimulation of the vagus nerves, 1912, **XXX**, p. 303.
- The response of the vasomotor centre to depressor stimulation, 1912, **XXX**, p. 369.

- SOLLMANN, T.** See BROWN and SOLLMANN, 1912, **XXIX**, p. xxxv.  
See HATCHER and SOLLMANN, 1902, **VIII**, p. 139.
- STANLEY, O. O.** See KEMP and STANLEY, 1902, **VI**, p. xi.  
See KEMP, STANLEY, and HAYHURST, 1906, **XV**, p. xxxi.
- STEEL, M.** On the absorption of aluminium from aluminized food, 1911, **XXVIII**, p. 94.
- STEEL, M., and W. J. GIES.** On the chemical nature of paranucleoprotagon, a new product from brain, 1907, **XX**, p. 378.  
On the use of bone ash with the diet, in metabolism experiments on dogs, 1907, **XX**, p. 343.
- STEVENS, H. C.** See MAGNUSSEN and STEVENS, 1911, **XXIX**, p. 124.
- STEVENS, N. M.** On the force of contraction of the frog's gastrocnemius in rigor, and on the influence of "chloretone" on that process, 1901, **V**, p. 374.
- STEWART, C. C.** Mammalian smooth muscle, 1900, **III**, p. xxv.  
Mammalian smooth muscle. — The cat's bladder, 1900, **IV**, p. 185.  
On the course of impulses to and from the cat's bladder, 1899, **II**, p. 182.  
The relaxation of the bladder muscles of the cat, 1899, **III**, p. 1.  
The second maximum in the response of muscle to stimulation, 1903, **VIII**, p. xxiv.  
A simple etherizing bottle, 1899, **II**, p. x.  
Some minor improvements in laboratory apparatus, 1903, **VIII**, p. xxii.  
Variations in daily activity produced by alcohol and by changes in barometric pressure and diet, with a description of recording methods, 1898, **I**, p. 40.
- STEWART, C. C.** See CLEGHORN and STEWART, 1900, **III**, p. xxi.  
See CLEGHORN and STEWART, 1901, **V**, p. 281.
- STEWART, G. N.** The action of hæmolytic agents at 0° C., 1903, **VIII**, p. xliii.  
The behavior of nucleated colored blood-corpuscles to certain hæmolytic agents, 1902, **VIII**, p. 103.  
Differences of potential between blood and serum and between normal and laked blood, 1903, **VIII**, pp. xliii, ix, 262.  
Experiments on the molecular concentration and electrical conductivity of certain animal liquids, 1899, **II**, p. xxi.  
The influence of cold on the action of some hæmolytic agents, 1903, **IX**, p. 72.  
The influence of the stromata and liquid of laked corpuscles on the production of hæmolysins and agglutinins, 1904, **XI**, p. 250.  
The influence of the temperature of the heart on the activity of the vagus in the tortoise, 1909, **XXIV**, p. 341.  
Measurement of the blood flow in man, 1911, **XXVII**, p. xx.  
The mode of action of certain substances on the colored blood-corpuscles, with special reference to the relation between so-called vital processes and the physico-chemical structure of cells, 1902, **VI**, p. xxvi.  
The resuscitation of the central nervous system, 1906, **XV**, p. xxxi.

**STEWART, G. N.**

Some observations on the behavior of the automatic respiratory and cardiac mechanisms after complete and partial isolation from extrinsic nerve impulses, 1907, **XX**, p. 407.

Studies on the circulation in man. III. — The influence of forced breathing on the blood flow in the hands, 1911, **XXVIII**, p. 190.

**STEWART, G. N., and F. H. PIKE.** Further observations on the resuscitation of the respiratory nervous mechanism, 1907, **XX**, p. 61.

Resuscitation of the respiratory and other bulbar nervous mechanisms, with special reference to the question of their automaticity, 1907, **XIX**, p. 328.

**STEWART, G. N.** See GUTHRIE, PIKE, and STEWART, 1906, **XVII**, p. 344.

See PIKE, GUTHRIE, and STEWART, 1908, **XXI**, p. 359.

See PIKE, GUTHRIE, and STEWART, 1908, **XXII**, p. 51.

**STILES, P. G.** On the influence of calcium and potassium salts upon the tone of plain muscle, 1903, **VIII**, p. 269.

On the rhythmic activity of the œsophagus and the influence upon it of various media, 1901, **V**, p. 338.

**STILES, P. G., and W. H. BEERS.** On the masking of familiar ionic effects by organic substances in solutions, 1905, **XIV**, p. 133.**STILES, P. G., and G. LUSK.** On the action of phlorhizin, 1903, **X**, p. 67.

On the formation of dextrose in metabolism from the end-products of a pancreatic digest of meat, 1903, **IX**, pp. 380, xviii.

**STILES, P. G.** See BARBOUR and STILES, 1911, **XXVII**, p. xi.

See MILLIKEN and STILES, 1905, **XIV**, p. 359.

See PATTEN and STILES, 1906, **XVII**, p. 26.

**STOLAND, O. O.** The relative toxicity of dog's normal and hypertrophied thyroids to animals susceptible to thyroid feeding, 1912, **XXX**, p. 37.**STOOKEY, L. B.** Concerning peptone (second communication), 1906, **XV**, p. xii.

On the formation of glycogen from glycoproteids and other proteids, 1903, **IX**, p. 138.

A possible significance of the Cammidge reaction, 1910, **XXV**, p. xiv.

**STOOKEY, L. B., and V. GARDNER.** Concerning the pharmacological action of potassium iodide, 1908, **XXI**, p. xxv.**STOOKEY, L. B.** See LEVENE and STOOKEY, 1903, **VIII**, p. xxiii.

See LEVENE and STOOKEY, 1904, **X**, p. xlv.

See LEVENE and STOOKEY, 1904, **XII**, p. 1.

**STOREY, T. A.** The immediate influence of exercise upon the irritability of human voluntary muscle, 1903, **IX**, p. 52.

The influence of fatigue upon the speed of voluntary contraction of human muscle, 1903, **VIII**, p. 355.

Tonus rhythms in normal human muscle and in the gastrocnemius of the cat, 1904, **XII**, p. 75.

Variations in the amplitude of the contractions of human voluntary muscle in response to graded variations in the strength of the induced shock, 1903, **VIII**, p. 435.

- STOREY, T. A., and W. T. PORTER.** Further contributions to muscle tonus, 1904, **X**, p. xliv.
- STOREY, T. A.** See PORTER and STOREY, 1905, **XIII**, p. xxii.  
See PORTER and STOREY, 1907, **XVIII**, p. 181.
- SULLIVAN, M. X.** The physiology of the digestive tract of elasmobranchs, 1905, **XV**, p. 42.  
See SCHREINER and SULLIVAN, 1911, **XXVII**, p. xxv.
- SUMNER, F. B.** Further studies of the physical and chemical relations between fishes and their surrounding medium, 1907, **XIX**, p. 61.
- SURFACE, F. M.** See PEARL and SURFACE, 1908, **XXII**, p. 357.
- SUTHERLAND, W.** A molecular theory of the electric properties of nerve, 1906, **XVII**, p. 297.  
The nature of chemical and electrical stimulation, 1906, **XVII**, p. 266.  
The nature of the conduction of nerve impulse, 1908, **XXIII**, p. 115.  
The nature of the propagation of nerve impulse, 1905, **XIV**, p. 112.
- SWAIN, R. E.** The formation of allantoin from uric acid in the animal body, 1901, **VI**, p. 38.  
Some notable constituents of the urine of the coyote, 1905, **XIII**, p. 30.
- SWIFT, J. B., Jr.** See PORTER, MARKS, and SWIFT, 1907, **XX**, p. 444.

## T

- TALTAVAL, W. A., and W. J. GIES.** The influence of chinic acid on the elimination of uric acid, 1903, **IX**, p. xvi.
- TAYLOR, A. E.** A modified Soxhlet apparatus for the extraction of fat from liquids, 1899, **III**, p. 183.
- TERRY, O. P.** Galvanotropism of volvox, 1906, **XV**, pp. 235, xxxi.  
The production, by hydrogen peroxide, of rhythmical contractions in the marginless bell of *Gonionemus*, 1909, **XXIII**, pp. xxxvii, xxiv, 117.
- TERRY, O. P.** See NEILSON and TERRY, 1905, **XIV**, pp. 105, 248.  
See NEILSON and TERRY, 1906, **XV**, p. 406.  
See NEILSON and TERRY, 1908, **XXII**, p. 43.
- THACHER, H. C.** On the excretion of strontium, 1903, **IX**, p. xviii.  
See MENDEL and THACHER, 1903, **IX**, p. xv.  
See MENDEL and THACHER, 1904, **XI**, p. 5.
- TODD, M. H.** See SNYDER and TODD, 1911, **XXVIII**, p. 161.
- TORELLE, E.** The response of the frog to light, 1903, **IX**, p. 466.
- TOWER, R. W.** See GORHAM and TOWER, 1902, **VIII**, p. 175.
- TOWLE, E. W.** A study in the heliotropism of *Cypridopsis*, 1900, **III**, p. 345.  
A study of the effects of certain stimuli, single and combined, upon *Paramecium*, 1904, **XII**, p. 220.
- TURNER, A. H.** See PORTER and TURNER, 1912, **XXIX**, p. xxxi.
- TYRÖDE, M. V.** See PFAFF and TYRÖDE, 1900, **IV**, p. xv.

## U

- UNDERHILL, F. P.** Certain aspects of experimental diabetes, 1905, **XIII**, p. xxxvi.  
Experiments on the precursors of urinary indican, 1904, **X**, p. xxvii.  
The metabolism of dogs with functionally resected small intestine, 1911, **XXVII**, p. 366.  
New experiments on the physiological action of the proteoses, 1903, **XI**, p. 345.  
On the origin and precursors of urinary indican, 1904, **XII**, p. 176.  
The production of glycosuria by adrenalin in thyroidectomized dogs, 1911, **XXVII**, p. 331.
- UNDERHILL, F. P., and O. E. CLOSSON.** Adrenalin glycosuria and the influence of adrenalin upon nitrogenous metabolism, 1906, **XVII**, p. 42.  
The mechanism of salt glycosuria, 1906, **XV**, pp. 321, xx.  
The physiological behavior of methylene blue and methylene azure: a contribution to the study of the oxidation and reduction processes in the animal organism, 1905, **XIII**, p. 358.
- UNDERHILL, F. P., and W. W. HILDITCH.** Certain aspects of carbohydrate metabolism in relation to the complete removal of the thyroids and partial parathyroidectomy, 1909, **XXV**, p. 66.
- UNDERHILL, F. P.** See **HENDERSON** and **UNDERHILL**, 1911, **XXVIII**, p. 275.  
See **MENDEL** and **UNDERHILL**, 1901, **V**, p. xiii.  
See **MENDEL** and **UNDERHILL**, 1903, **VIII**, p. xvi.  
See **MENDEL** and **UNDERHILL**, 1905, **XIV**, p. 252.  
See **MENDEL** and **UNDERHILL**, 1906, **XVII**, p. 75.  
See **MENDEL**, **UNDERHILL**, and **WHITE**, 1903, **VIII**, p. 377.

## V

- VAN BERGEN, C.** See **BUSCH** and **VAN BERGEN**, 1904, **X**, p. xix.  
See **BUSCH** and **VAN BERGEN**, 1905, **XIII**, p. xvi.  
See **BUSCH** and **VAN BERGEN**, 1906, **XV**, p. 444.
- VAN DE ERVE, J.** On the rôle of the kidneys in the regulation of the concentration of the serum diastase, 1911, **XXIX**, p. 182.
- VANDEGRIFT, G. W., and W. J. GIES.** The composition of yellow fibrous connective tissue, 1901, **V**, p. 287.
- VAN DENBURGH, J., and O. B. WIGHT.** On the physiological action of the poisonous secretion of the Gila monster (*Heloderma suspectum*), 1900, **IV**, p. 209.
- VAN EPPS, C.** See **ROCKWOOD** and **VAN EPPS**, 1907, **XIX**, p. 97.
- VAUGHAN, V. C.** The chemistry of bacterial cells, with a demonstration of the apparatus used in obtaining the cellular substance in large amount, 1903, **IX**, p. xviii.  
A contribution to cell-chemistry, 1905, **XIII**, p. xi.

**VAUGHAN, V. C.**

Proteid susceptibility and immunity, 1907, **XIX**, p. xix.

**VOEGTLIN, C., and J. KING.** On the antagonistic action of ammonium and calcium salts. — A contribution to the knowledge of acidosis, 1909, **XXIII**, p. xxxvii.**VOLOVIC, G. O.** See MYERS and VOLOVIC, 1912, **XXIX**, p. xviii.**VON HESS, C. L.** See MCGUIGAN and VON HESS, 1912, **XXX**, p. 341.**VOSBURGH, C. H., and A. N. RICHARDS.** An experimental study of the sugar content and extravascular coagulation of the blood after administration of adrenalin, 1903, **IX**, p. 35.**W****WALDEN, E. C.** Comparison of the effect of certain inorganic solutions and solutions containing serum albumin on the rhythmic contractility of the frog's heart, 1899, **III**, p. 123.

Note on Mosso's sphygmomanometer, 1900, **IV**, p. xv.

A plethysmographic study of the vascular conditions during hypnotic sleep, 1900, **IV**, pp. 124, xv.

**WALLACE, G. B., and A. R. CUSHNY.** On intestinal absorption and the saline cathartics, 1898, **I**, p. 411.**WALLACE, G. B., and H. C. JACKSON.** Is the action of alcohol on gastric secretion specific? 1903, **VIII**, p. xvii.**WALLACE, G. B., and W. A. MOGK.** The action of suprarenal extract on the mammalian heart, 1899, **II**, p. v.**WARD, H. C.** The hourly variations in the quantity of hæmoglobin and in the number of the corpuscles in human blood, 1904, **XI**, p. 394.**WASHBURN, A. L.** See CANNON and WASHBURN, 1912, **XXIX**, p. 441.**WEINGARTEN, F. S., and B. B. CROHN.** The influence of internal hemorrhage on chemical change in the organism, with particular reference to protein catabolism, 1908, **XXII**, p. 207.**WELCH, JEANNETTE C.** On the measurement of mental activity through muscular activity, and the determination of a constant of attention, 1898, **I**, p. 283.**WELKER, W. H.** A simple electrical annunciator for use in metabolism experiments, and in connection with filtration, distillation, and similar operations, 1907, **XX**, p. 358.**WELLS, H. G.** The chemistry of hypernephromas, 1908, **XXI**, p. xxv.

On the relation of autolysis to proteid metabolism, 1904, **XI**, p. 351.

**WELLS, H. G., and L. B. MENDEL.** On absorption from the peritoneal cavity, 1907, **XVIII**, p. 156.**WELLS, H. G.** See MENDEL and WELLS, 1909, **XXIV**, p. 170.**WHIPPLE, G. H.** See JONES and WHIPPLE, 1902, **VII**, p. 423.**WHITCHER, B. R.** See MATHEWS and WHITCHER, 1903, **VIII**, p. 300.**WHITE, B.** See MENDEL and WHITE, 1904, **XII**, p. 85.

**WHITE, B.**

See MENDEL, UNDERHILL, and WHITE, 1903, **VIII**, p. 377.

**WHITEHEAD, R. H.** The absorption of fat stained by Sudan III, 1910, **XXV**, p. xxviii.

A note on the absorption of fat, 1909, **XXIV**, p. 294.

**WHITNEY, D. D.** The relative toxicity of methyl and ethyl alcohols as determined by the rate of reproduction in *Hydatina senta*, 1912, **XXX**, p. 463.**WIGGERS, C. J.** An improved outflow-recording apparatus, 1908, **XXIII**, p. 23.

The influence of adrenalin over internal hemorrhages, 1909, **XXIII**, p. xxv.

The innervation of the cerebral vessels as indicated by the action of drugs, 1907, **XX**, p. 206.

The innervation of the coronary vessels, 1909, **XXIII**, p. xxiv; **XXIV**, p. 391.

On the action of adrenalin on the cerebral vessels, 1905, **XIV**, p. 452.

Pulse pressure variations in the pulmonary circuit, 1911, **XXVII**, p. xxi.

Some vasomotor changes in the cerebral vessels obtained by stimulating the carotid plexuses, 1908, **XXI**, p. 454.

Studies on the pulmonary circulation. I. — The pressure variations in the pulmonary circulation of the dog studied by a new pulse pressure instrument, 1912, **XXX**, p. 233.

**WIGGERS, C. J.** (reported by W. P. LOMBARD). A method of studying the action of adrenalin, etc., on the blood vessels of the isolated brain, 1906, **XV**, p. xxxii.**WIGHT, O. B.** See VAN DENBURGH and WIGHT, 1900, **IV**, p. 209.**WILDER, B. G.** An improved apparatus for illustrating the action of the diaphragm, 1903, **VIII**, p. xlii.

A living frog from which the cerebrum was removed December 4, 1899, 1903, **VIII**, p. xlii.

**WILLIAMS, E. M.** See LYON and WILLIAMS, 1909, **XXIII**, p. xxxv.**WILLIAMS, H. B., J. A. RICHE, and G. LUSK.** The hourly chemical and energy transformations in the dog, after giving a large quantity of meat, 1912, **XXIX**, p. xxxiii.**WILLIAMS, W. W.** Perfusion experiments on excised kidneys. VIII. — The effects of solutions on the histological appearance of kidney sections, 1907, **XIX**, p. 252.

See SOLLMANN, 1906, **XV**, p. 121.

See SOLLMANN, BROWN, and WILLIAMS, 1907, **XX**, p. 74.

**WILLS, F., and P. B. HAWK.** The stimulation of the gastric secretion under the influence of water drinking with meals, 1911, **XXVII**, p. xxxii.**WILSON, MARGARET B.** On the growth of suckling pigs fed on a diet of skimmed cow's milk, 1902, **VIII**, p. 197.**WILSON, T. M.** The action of quinine sulphate on human blood, 1907, **XIX**, p. 445.

Measurement of electrical conductivity for clinical purposes, 1905, **XIII**, p. 139.

On the comparison of conductivity and freezing points of small quantities of body fluids in health and disease, 1906, **XVI**, p. 438.



- WOELFEL, A.** An attempt to determine the mechanism of protein metabolism in starvation, 1908, **XXI**, p. xxvi.  
The place of retention or reconjugation of the amino acids in the body, 1912, **XXIX**, p. xxxviii.  
See CARLSON and WOELFEL, 1909, **XXIII**, p. xix.  
See CARLSON and WOELFEL, 1910, **XXVI**, p. 32.  
See CARLSON, WOELFEL, and POWELL, 1909, **XXIII**, p. xxiii.  
See CARLSON, WOELFEL, and POWELL, 1911, **XXVIII**, p. 176.  
**WOLF, C. G. L.** Protein metabolism in the dog, 1907, **XIX**, p. xiv.  
**WOLF, C. G. L., and E. OSTERBERG.** Protein metabolism in phlorhizin diabetes, 1911, **XXVIII**, p. 71.  
**WOLF, C. G. L., and P. A. SHAFFER.** Protein metabolism in cystinuria, 1907, **XIX**, p. xiii.  
**WOLF, C. G. L.** See DRYFUSS and WOLF, 1906, **XVI**, p. 314.  
See OSTERBERG and WOLF, 1908, **XXI**, p. xiii.  
**WOLFSOHN, J. M., and L. W. KETRON.** The gaseous metabolism of the dog's heart during vagus inhibition, 1910, **XXV**, p. xxv.  
**WOLFSOHN, J. M.** See HOOKER and WOLFSOHN, 1910, **XXV**, p. xxiv.  
**WOOD, H. C., Jr.** Notes on the elimination of strontium, 1898, **I**, p. 83.  
The origin of the "Traube" waves, 1899, **II**, p. 352.  
A physiological study of the pulmonary circulation, 1902, **VI**, p. 283.  
**WOODRUFF, I. O., and W. J. GIES.** On the toxicology of selenium and its compounds, 1902, **VI**, p. xxix.  
**WOODRUFF, L. L., and G. A. BAITSELL.** The temperature coefficient of the rate of reproduction in *Paramecium aurelia*, 1911, **XXIX**, p. 147.  
**WOODRUFF, L. L., and H. H. BUNZEL.** The relative toxicity of various salts and acids toward *Paramecium*, 1909, **XXV**, p. 190.  
**WOODWORTH, R. S.** Demonstration of expressive motions in a decerebrate animal, 1904, **X**, p. xliii.  
Maximal contraction, "staircase" contraction, refractory period, and compensatory pause, of the heart, 1902, **VIII**, p. 213.  
On the rate of fatigue of nerve centres, 1901, **V**, p. iv.  
Studies in the contraction of smooth muscle, 1899, **III**, p. 26.  
**WRIGHT, W. S.** See CANNON, SHOHL, and WRIGHT, 1911, **XXIX**, p. 280.

## Y

- YERKES, R. M.** A contribution to the physiology of the nervous system of the medusa *Gonionemus Murbachii*. Part I. — The sensory reactions of *Gonionemus*, 1902, **VI**, p. 434.  
A contribution to the physiology of the nervous system of the medusa *Gonionema Murbachii*. Part II. — The physiology of the central nervous system, 1902, **VII**, p. 181.  
The functions of the ear of the dancing mouse, 1907, **XVIII**, p. xviii.  
Reaction of Entomostraca to stimulation by light, 1899, **III**, p. 157.

**YERKES, R. M.**

Reaction of Entomostraca to stimulation by light. II. — Reactions of Daphnia and Cypris, 1900, **IV**, p. 405.

The relation of intensity of stimulus to rapidity of habit formation, 1909, **XXIII**, p. xiii.

The relation of plasticity to age in the dancing mouse, 1903, **XXI**, p. xxv.

A study of the reactions and reaction time of the medusa *Gonionema Murbachii* to photic stimuli, 1903, **IX**, p. 279.

**Z**

**ZARTMAN, L. V.** See **HOOKE**R, **HEGEMAN**, and **ZARTMAN**, 1909, **XXIII**, p. xi.

**ZOETHOUT, W. D.** The effects of potassium and calcium ions on striated muscle, 1902, **VII**, p. 199.

The effects of various salts on the tonicity of skeletal muscles, 1904, **X**, p. 211.

Further experiments on the influence of various electrolytes on the tone of skeletal muscles, 1904, **X**, p. 373.

On some analogies between the physiological effects of high temperature, lack of oxygen, and certain poisons, 1899, **II**, p. 220.

On the contact irritability of muscles, 1902, **VII**, p. 320.

On the influence of sodium chloride and calcium chloride in the potassium contraction, 1909, **XXIII**, p. 374.

On the production of contact irritability without the precipitation of calcium salts, 1904, **X**, p. 324.

# Alphabetical List of Subjects

## A

- Absorption**, after nephrectomy, 1903, **VIII**, p. xlii.  
fat, 1901, **VI**, p. 17; 1902, **VI**, p. 331; 1909, **XXIV**, pp. 294, 493; 1910, **XXV**, p. xxviii.  
fat, in dogs, 1908, **XXIII**, p. 65.  
fat, in stomach, 1912, **XXIX**, pp. xxxvi, xxxvii.  
from intramuscular tissue, 1905, **XIII**, p. xxxii.  
from liver, 1905, **XIV**, p. 252.  
intestinal, 1898, **I**, p. 411.  
of protein, 1899, **II**, p. 137; 1901, **VI**, p. 22.  
peritoneal, 1910, **XXV**, p. xv.  
post-mortem, through lymphatics, 1912, **XXIX**, p. xxx.
- Acapnia** and glycosuria 1911, **XXVIII**, p. 275.  
and shock, 1908, **XXI**, p. 126; 1909, **XXIII**, p. 345; **XXIV**, p. 66; 1910, **XXV**, pp. 310, 385; **XXVII**, p. 152.  
shock, and anæsthesia, 1910, **XXVI**, p. 260.
- Acidalbumin**, quantitative determination, 1902, **VII**, 460.
- Acidosis**, 1909, **XXIII**, p. xxxvii.  
in rabbits, 1907, **XVIII**, p. 113.
- Acids**, strength related to neutrality in organism, 1908, **XXI**, p. 173.
- Activity**, daily, methods of recording, 1898, **I**, p. 40.  
variations produced by alcohol, barometric changes, and diet, 1898, **I**, p. 40.
- Adrenal glands**, influence on blood pressure, 1912, **XXX**, p. 192.
- Adrenal secretion**, affected by asphyxia, hyperpnœa, and sensory stimulation, 1911, **XXIX**, p. 274.  
affected by emotional stimulation, 1911, **XXVIII**, p. 64.
- Adrenalectomy and glycosuria**, 1910, **XXVI**, p. 287.
- Adrenalin**, 1902, **VII**, p. 359; 1904, **XI**, pp. 28, 37, 40.  
action of, 1910, **XXVI**, p. 26.  
action on blood pressure, 1912, **XXX**, p. 382.  
action on blood vessels, 1903, **VIII**, p. xlii.  
action on blood vessels of brain, method of studying, 1906, **XV**, p. xxxii.  
action on cerebral vessels, 1905, **XIV**, p. 452.  
action on eyes of cats whose sympathetic nerve is cut, or whose superior cervical ganglion is removed, 1904, **X**, p. xxxvii.  
action on eyes of rabbits whose superior cervical ganglia are removed, 1904, **X**, p. xliv.

**Adrenalin**

- action on glycosuria and nitrogenous metabolism, 1906, **XVII**, p. 42.
- action on internal hemorrhages, 1909, **XXIII**, p. xxv.
- composition, 1903, **VIII**, p. xxix; **IX**, p. xvii.
- dilates pupil on splanchnic stimulation, 1912, **XXIX**, p. xxxiv.
- oxidation, 1903, **VIII**, p. xxxi.
- produces glycosuria after thyroidectomy, 1911, **XXVII**, p. 331.
- prolonged existence in the blood, 1909, **XXIII**, p. 226.
- resuscitates the heart, 1909, **XXIII**, p. xxi.
- subcutaneous and intramuscular injections, 1912, **XXIX**, p. xxvi.

**Agglutination**, of blood corpuscles, 1904, **XII**, p. 363.

**Agglutinins**, affected by lymphagogues, 1908, **XXI**, p. 221.  
production of, 1904, **XI**, p. 250.

**Agitation**, effect on Arbacia eggs, 1903, **IX**, pp. 245, xviii.

**Albuminuria**, relation to blood pressure and pulse pressure, 1904, **X**, p. xvi.  
relation to pulse pressure, 1909, **XXIII**, p. xi.

**Albumoid** of bone and cartilage, 1902, **VII**, p. 340.  
of bone, composition, 1902, **VI**, p. xxvii.

**Albumose**, excretion by kidneys, 1898, **I**, p. 274.  
physiological action, 1898, **I**, p. 266.

**Alcohol**, action on muscle, 1902, **VI**, p. xiii; **VIII**, p. 61.  
effect on distemper, 1898, **I**, p. xv.  
effect on excretion of uric acid, 1903, **IX**, p. xi; 1904, **XII**, p. 13.  
effect on metabolism, 1910, **XXV**, p. xi.  
effect on nitrogenous metabolism, 1910, **XXVII**, p. 1.  
effect on secretion of bile, 1906, **XVII**, p. 408.  
effect on voluntary muscular power in fatigue, 1898, **I**, p. xv.  
effect on young dogs, 1898, **I**, p. xv.  
nutritive value, 1900, **III**, p. xiii.  
toxicity, 1912, **XXX**, p. 463.

**Alcoholic beverages**, influence on digestion, 1898, **I**, p. 164.

**Alimentary canal**, after splanchnic and vagus section, 1905, **XIII**, p. xxii.  
neuro-muscular mechanism, 1908, **XXI**, p. xx.

**Alkaline solutions**, in surgical shock, 1900, **IV**, p. xiv.

**Alkalinity**, blood, 1905, **XV**, p. 30.

**Alkaloids and salts**, antagonism, 1904, **X**, p. 345.

**Allantoin**, 1900, **III**, p. xxxi.

- estimation, 1901, **VI**, p. 39.
- excretion, 1900, **III**, p. 265; 1902, **VI**, p. xiv.
- excretion in monkey, 1911, **XXVII**, p. xv.
- formation from uric acid, 1901, **VI**, p. 38.
- production, 1904, **XII**, p. 85.

**Alloxuric bases**, in fever, 1904, **X**, p. 452.

**Alternating current**, in the physiological laboratory, 1909, **XXIII**, p. xxxvii.  
used in place of a tuning fork, 1909, **XXIII**, p. xxxv.

- Altitude**, effect on blood pressure, 1908, **XXIII**, p. 90.
- Aluminium**, absorption from food, 1911, **XXVIII**, p. 94.
- Amandin**, hydrolysis, 1908, **XX**, p. 470.
- Amino-acids**, in blood and lymph, 1906, **XVII**, p. 273.  
a source of sugar, 1910, **XXV**, p. xix.
- Ammonia**, determination in urine, 1903, **VIII**, p. 330.  
elimination, 1909, **XXIII**, p. 324; **XXV**, p. 214.  
metabolism after thyroidectomy, 1910, **XXV**, p. 403.
- Ammonia tetany**, 1910, **XXVI**, p. 407.
- Ammonium salts**, cause of pharmacological action, 1907, **XVIII**, p. 58.
- Amœba**, movements, 1906, **XV**, p. xvi.  
reaction to light, 1899, **III**, p. 9.  
reaction to stimuli of small area, 1908, **XXI**, p. xiii.  
structure, 1899, **III**, p. 16.
- Amœba proteus**, 1908, **XXI**, p. xxv.  
functions and structure, 1907, **XVIII**, p. xi.
- Amylolytic power of saliva**, variations, 1898, **I**, p. iii.
- Anæmia**, effect on brain and cord, 1908, **XXI**, p. 359.  
of glands and muscles, resuscitation, 1908, **XXII**, p. 51.
- Anæsthesia**, acapnia, and shock, 1910, **XXVI**, p. 260.  
apnœa vera in, 1910, **XXV**, p. xiii.  
by ether in rectum, 1898, **I**, p. viii.  
effect on osmotic concentration of blood, 1908, **XXI**, pp. 162, xxv.  
ether, 1904, **X**, p. xxxvii.  
ether, effect on metabolism, 1912, **XXIX**, p. xvii.  
from magnesium salts, 1905, **XIV**, p. 366.  
local, relation to sensory changes in skin, 1910, **XXVII**, p. 45.
- Anæsthetics**, antagonism to salts, 1912; **XXIX**, p. 372, **XXX**, p. 1.  
antitoxic action, 1912, **XXIX**, p. 372.  
effect on permeability, 1912, **XXIX**, p. xi.  
pharmacological study, 1905, **XV**, p. 85.
- Anaphylaxis**, 1911, **XXVII**, p. xxiv.  
affected by atropin, 1910, **XXVI**, p. 439.  
similarity to the effects of digitalis, 1912, **XXIX**, p. xvi.
- Animal extracts**, action on heart, 1899, **II**, pp. 279, v.
- Animal heat**, influenced by digestion, 1900, **IV**, p. 397.
- Animal holder**, 1907, **XX**, p. 362.
- Anions**, antitoxic action, 1906, **XV**, p. xiii.
- Annelid muscle**, 1902, **VII**, p. 155.
- Annelid parthenogenesis**, 1902, **VII**, p. 301.
- Annunciator**, for use in metabolism experiments, 1907, **XX**, p. 358.
- Antagonism between alkaloids and salts**, 1904, **X**, p. 345.
- Antagonism of salts**, 1911, **XXVII**, p. xxxii.
- Antibodies**, concentration in body fluids, 1910, **XXV**, p. 292.  
produced by injection of nucleoproteids, 1906, **XV**, p. xxxi.

- Antifermentative properties of salts**, related to decomposition-tension, 1904, **X**, p. 444.
- Antipyretic**, camphenal, 1906, **XV**, pp. xxvi, 433.
- Antithrombin**, 1911, **XXIX**, p. 187.
- Antitoxic action of salts**, 1906, **XV**, p. xiii.
- Aorta**, blood currents in, 1898, **I**, p. xiv.
- Apnœa**, 1903, **IX**, p. 24.  
after excessive respiration, 1910, **XXV**, p. 310.
- Apnœa vera**, in anæsthesia, 1910, **XXV**, p. xiii.
- Apparatus**, 1905, **XIII**, p. xxxvii; 1906, **XV**, pp. xxx, xxxi, xxxii.  
for estimating muscular contractions, discussion of, 1900, **IV**, p. 348.  
for laboratory instruction, 1900, **III**, p. xxxii.  
for recording muscular contractions in unipolar excitation of nerve, 1900, **IV**, p. xii.  
for recording outflow, 1908, **XXIII**, p. 23.  
for varnishing, 1906, **XV**, p. xxx.  
physiological, 1902, **VI**, pp. xxiv, xxv.
- Apple**, carbohydrates of marc, 1912, **XXX**, p. 258.
- Arbacia eggs**, affected by agitation, 1903, **IX**, pp. 245, xviii.
- Arbacia**, unfertilized eggs, mitotic division, 1900, **IV**, p. 343; 1901, **IV**, p. 445.
- Arenicola larvæ**, movements influenced by salt solutions, 1901, **V**, p. 56.
- Aspartic acid**, estimation of, 1910, **XXVI**, p. 420.
- Asphyxia**, action on vasomotor centre, 1911, **XXIX**, p. 100.  
production of hyperglycæmia, 1909, **XXIII**, p. 278.  
rise of blood pressure, 1911, **XXVII**, p. xxii.
- Associations**, formation and retention, 1902, **VI**, p. xxvii.  
in decerebrate frog, 1912, **XXX**, p. 80.
- Atmosphere**, moist, effect on rats, 1907, **XVIII**, p. 1.
- Atomic volume**, relation to solution-tension and physiological action, 1904, **X**, p. 290.
- Atropine**, action, 1901, **VI**, p. 207.  
action on salivary secretion, 1901, **IV**, p. 482.  
and pilocarpine, simultaneous action, 1904, **X**, p. 352.  
prophylactic action in anaphylaxis, 1910, **XXVI**, p. 439.
- Attention**, determination of a constant of, 1898, **I**, p. 283.
- Auditory stimuli**, affected by visual, 1903, **IX**, p. 116.
- Auerbach's plexus**, regeneration of, 1911, **XXVIII**, p. 352.
- Auricle**, filling of, 1902, **VII**, p. 435.
- Auscultation of stomach and intestines**, 1905, **XIV**, p. 339.
- Autolysis**, 1904, **XI**, p. 351.  
of animal organs, 1904, **XI**, p. 437; **XII**, p. 276.  
of embryonic tissues, 1908, **XXI**, p. 69.
- Automatism**, of bulbar centres, 1907, **XIX**, p. 328.  
of respiratory and cardiac mechanisms, 1907, **XX**, p. 407.
- Autotomy**, relation to reflexes in hermit-crab, 1902, **VI**, p. 278.

## B

- Bacillus coli communis**, chemical products, 1903, VIII, p. 284.  
**Bacillus lactis aerogenes**, chemical products, 1903, VIII, p. 284.  
**Bacteria**, chemistry, 1903, IX, p. xviii.  
    fluorescent, 1899, II, p. xviii.  
    reaction to stimuli, 1901, VI, p. 31.  
**Bacterial cultures**, action on heart, 1899, II, p. 288.  
**Barium**, antagonism to magnesium, 1910, XXV, p. xvii.  
    elimination, 1909, XXV, p. 142.  
    excretion, 1906, XVI, p. 147.  
**Baths**, cold, influence on glycogen content, 1911, XXVII, p. 427.  
**Bile**, as a solvent, 1900, III, p. xiv.  
    chemical reaction, 1898, I, p. 317.  
    influence on pancreatic proteolysis, 1898, I, p. 307.  
    relation to pancreatic juice, 1899, II, p. 485.  
    secretion affected by alcohol, 1906, XVII, p. 408.  
**Biliary fistula**, 1906, XVII, p. 362.  
**Biological problems of to-day**, 1898, I, p. xv.  
**Bladder**, muscles of, 1899, III, p. 1.  
    nerve supply, 1899, III, p. 1.  
    urinary, innervation, 1899, II, p. 182.  
**Blood**, action of quinine sulphate on, 1907, XIX, p. 445.  
    agglutinins, 1908, XXI, p. 221.  
    alkalinity, 1905, XV, p. 30; 1907, XIX, p. 1.  
    amido acids, 1906, XVII, p. 273.  
    analysis of gases in, 1909, XXIII, p. xxxvii.  
    cholesterin, 1899, II, p. 306.  
    coagulation, 1899, III, p. 78; 1905, XIII, p. xxxvii; 1909, XXIV, p. 406.  
    coagulation, affected by adrenalin, 1903, IX, p. 35.  
    coagulation, affected by albumose and peptone, 1898, I, p. 269.  
    coagulation, affected by blood serum and by tissue extracts, 1907, XVIII, p. xvii.  
    coagulation, affected by formaldehyde, etc., 1903, IX, p. 187.  
    coagulation, affected by intravenous injections of thrombin, 1911, XXIX, p. 460.  
    coagulation, affected by protein, 1899, II, p. 153.  
    coagulation, rôle of antithrombin and thromboplastin, 1911, XXIX, p. 187.  
    corpuscles acted upon by certain substances, 1902, VI, p. xxvi.  
    corpuscles and other cells affected by acids, 1902, VIII, p. 99; 1903, VIII, p. 404.  
    corpuscles, counting, 1901, V, p. iv; 1904, X, p. 384.  
    corpuscles, hæmolysis, 1902, VIII, p. 103.  
    corpuscles, hourly variations in number of, 1904, XI, p. 394.  
    corpuscles, influence of massage on, 1899, II, p. xxi.



**Blood**

- defibrination, 1899, **III**, p. 61.
- diastases, 1908, **XXIII**, p. 148.
- diastases, relation to pancreas, 1910, **XXVI**, p. 347.
- effect of altitude, 1904, **X**, p. xxxii.
- effect on perfusion of kidney, 1905, **XIII**, pp. 291, xxxi.
- electrical conductivity during coagulation, 1905, **XIV**, p. 466.
- electrical potential, 1903, **VIII**, p. xliii; **IX**, p. 262.
- fibrinogen, influence of liver on, 1912, **XXX**, p. 161.
- fibrinogen, relation of liver to regeneration of, 1912, **XXIX**, p. xix.
- hæmolysins and agglutinins, 1904, **XI**, p. 250.
- laking, 1903, **VIII**, pp. 441, xliii; 1904, **XII**, pp. 184, 363.
- leucocytes in fasting, 1912, **XXX**, p. 174.
- muscular exercise, 1904, **X**, p. 384.
- non-coagulable protein, 1906, **XVII**, p. 280.
- osmotic concentration during anæsthesia, 1908, **XXI**, p. 162.
- preparation of thromboplastic extracts, 1911, **XXIX**, p. 156.
- proteins, formation, 1890, **III**, p. 53.
- salts, effect on contractility, 1906, **XVI**, p. 191.
- salts, effect on contractions of heart, 1901, **VI**, p. 181.
- salts, rate of diffusion, 1906, **XVII**, p. 35.
- salts, sugar content affected by adrenalin, 1903, **IX**, p. 35.
- sugar in, controlled by nerves, 1907, **XIX**, p. 388.
- thrombin, antithrombin, and prothrombin, 1910, **XXVI**, p. 453.
- transfusion, 1908, **XXI**, p. xxvi.
- transfusion, in parathyroid tetany, 1912, **XXX**, p. 47.
- venous, affected by exercise, 1910, **XXV**, p. xxiv.
- vessels, heterotransplantation of, 1908, **XXI**, p. xvii.
- vessels, transplantation of, 1907, **XIX**, p. 482.
- viscosity, 1902, **VII**, p. 243; 1911, **XXVIII**, p. 161.
- Blood current**, velocity influenced by digitalis, strophanthus, and adrenalin, 1907, **XVIII**, p. 129.
- Blood flow**, blood pressure, and pulse pressure, 1904, **X**, p. xv.
- in veins, 1902, **VII**, p. 435.
- Blood plates**, constituents, 1902, **VI**, p. xi.
- counting, 1901, **V**, p. iv.
- prothrombin and thromboplastin in, 1912, **XXX**, p. 74.
- relation to red corpuscles at high altitudes, 1902, **VI**, p. xi.
- Blood pressure**, affected by adrenal glands, 1912, **XXX**, p. 192.
- affected by adrenalin, 1912, **XXX**, p. 382.
- affected by albumose and peptone, 1898, **I**, p. 275.
- affected by bone marrow, 1905, **XIV**, p. 328; 1906, **XVI**, p. 110.
- affected by cerebral stimulation, 1900, **III**, p. xxii.
- affected by gastric and peritoneal cauterization, 1907, **XIX**, p. xv.
- affected by glandular extracts, etc., 1904, **XI**, p. 282.

**Blood pressure**

- affected by pituitary extract, 1910, **XXVI**, p. 178.
  - affected by sciatic stimulation and by curare, 1910, **XXVI**, p. 233.
  - affected by smoking, 1909, **XXIV**, p. 104.
  - and pulse pressure, related to kidney secretions, 1904, **X**, p. xvi.
  - asphyxial rise in spinal animal, 1911, **XXVII**, p. xxii.
  - determination with sphygmomanometer, 1908, **XXI**, p. xxiv.
  - determined in man, 1902, **VI**, p. xxii.
  - during gastric and peritoneal stimulation, 1907, **XX**, p. 74.
  - during muscular effort, 1901, **V**, p. 95.
  - experiments, danger of magnesium sulphate, 1901, **V**, p. iii.
  - falls on traction of carotid artery, 1912, **XXIX**, p. xxxv; **XXX**, p. 88.
  - in birds, 1907, **XIX**, p. 108.
  - in high altitudes, 1908, **XXIII**, p. 90.
  - in lungs, 1912, **XXX**, p. 233.
  - in man, 1904, **X**, pp. xiv, xv.
  - in rarefied air, 1903, **X**, p. 149.
  - in salmon, 1903, **VIII**, p. xlii.
  - in sheep, 1910, **XXV**, pp. 433, xvii.
  - in shock; 1908, **XX**, p. 500.
  - in skin, 1912, **XXIX**, p. 335.
  - in sleep, 1901, **V**, pp. 199, iii.
  - in unanæsthetized animals, 1912, **XXIX**, p. xxii.
  - in veins, 1903, **IX**, pp. 161, 198.
  - method of recording in man, 1905, **XIII**, p. xxvii.
  - modified by urine and adrenalin, 1910, **XXVI**, p. 26.
  - post-hæmorrhagic recovery related to peripheral resistance, 1911, **XXIX**, p. 137.
  - pulmonary circuit, 1911, **XXVII**, p. xxi.
  - pulse pressure, and velocity of blood-flow, 1904, **X**, p. xv.
  - relation to respiratory movements, 1908, **XX**, p. 451.
  - relation to secretion in kidney, 1910, **XXVII**, p. 24.
  - suprarenal extract, 1900, **III**, pp. xv, xviii.
  - venous, affected by exercise, 1911, **XXVIII**, p. 235.
- Blood pressures, lateral**, 1906, **XV**, p. 244.
- Bone**, composition in osteomalacia, 1906, **XVII**, p. 32.
- Bone ash**, effect on metabolism and digestion, 1909, **XXIV**, p. 297.
- in diet, 1907, **XX**, p. 343.
- Bone marrow**, action on blood pressure, 1905, **XIV**, p. 328; 1906, **XVI**, p. 110.
- Borax**, its influence on nutrition, 1898, **I**, p. 1.
- Boric acid**, its influence on nutrition, 1898, **I**, p. 1.
- Brain**, affected by starvation, 1904, **XII**, p. 116.
- affected by warming the carotid blood, 1911, **XXVIII**, p. 223.
  - and cord, resuscitation after anæmia, 1908, **XXI**, p. 359.
  - chemical analysis, 1902, **VI**, p. xxvi; 1904, **XI**, p. 303.

**Brain**

- circulation, influenced by high arterial pressures, 1898, **I**, p. 57.
- decerebration does not prevent associations, 1912, **XXX**, p. 80.
- diseases, chemical study of, 1908, **XXI**, p. xxv.
- distribution of sulphur and phosphorus in, 1907, **XIX**, p. xix.
- function in *Planaria*, 1901, **V**, p. 175.
- function of occipital lobes, 1911, **XXVIII**, p. 308.
- injuries, effect on vasomotor centre, 1905, **XIII**, p. xxii; 1907, **XVIII**, p. 181.
- irritability during anæmia, 1903, **IX**, p. 131.
- protagon, 1902, **VIII**, p. 183.
- tumor of fourth ventricle, 1905, **XIII**, p. xx.
- vasomotor nerves, 1899, **II**, p. xii.
- Brömelin proteolysis**, 1901, **V**, p. xiii.
- Bulbar centres**, resuscitation of, 1907, **XIX**, p. 328.

**C**

- Cæsium chloride**, physiological action, 1903, **IX**, p. 214.
- Cage for animals**, 1905, **XIV**, p. 403.
- Calcium**, counteracts magnesium, 1908, **XXI**, pp. 400, xi.
  - counteracts saline purgatives, 1903, **X**, p. 101.
  - excretion, 1909, **XXIII**, p. xviii; **XXV**, p. 23.
  - influence on nerves of pupil, 1909, **XXV**, p. 43.
- Calcium salts**, affect contractility, 1908, **XXI**, p. 200.
  - solubility, 1898, **I**, p. 423.
- Calorimeter**, 1910, **XXVI**, p. 1.
- Cambridge reaction**, 1910, **XXV**, p. xiv.
- Camphenal**, as an antipyretic, 1906, **XV**, pp. xxvi, 433.
- Camphor**, influence upon excretion of dextrose in diabetes, 1903, **VIII**, p. xxxii.
- Cane-sugar**, inversion in stomach, 1898, **I**, p. 277.
  - not inverted in stomach by enzyme, 1904, **X**, p. xxi.
- Cannula**, arterial, 1902, **VI**, p. xxvi.
  - tracheal, 1903, **VIII**, p. xxiii.
- Carbamates**, chemistry of, 1905, **XIII**, p. xvii.
  - estimation of, 1905, **XII**, p. 444; **XIII**, p. xvii.
- Carbohydrate metabolism**, 1905, **XIV**, p. 12.
- Carbohydrates**, alimentary excretion of, 1907, **XIX**, p. 314.
  - parenteral utilization of, 1908, **XXI**, p. xii.
  - utilized without digestion, 1905, **XIV**, p. 239.
- Carbon dioxide**, apparatus, 1908, **XXI**, p. xxvi.
  - apparatus for quantitative determination, 1906, **XV**, p. xxxi.
  - excretion in moist atmosphere, 1907, **XVIII**, p. 1.
  - production in egg, 1904, **XI**, p. 52.
  - regulates heart rate, 1908, **XXI**, p. 126.
  - respiration apparatus for determination of, 1911, **XXVIII**, p. 29.

- Carbonic acid equilibrium**, 1908, **XXI**, pp. 420, 427.
- Cardio-inhibitory centre**, 1899, **II**, p. 449.  
reaction to increased aortic pressure, 1908, **XXI**, p. 373.  
relation to reflex acceleration, 1907, **XIX**, p. xii.
- Cardiopneumatic movements**, 1898, **I**, p. 117.
- Cardio-pneumatiscope**, 1903, **VIII**, p. xxii.
- Carotid**, traction causes fall of blood pressure, 1912, **XXIX**, p. xxxv.
- Castration**, effect on metabolism in osteomalacia, 1906, **XVII**, p. 211.
- Catalase**, 1905, **XIV**, p. 299.  
in echinoderm eggs, 1909, **XXV**, p. 199.  
of embryonic tissues, 1908, **XXI**, p. 85.
- Catalysis**, 1905, **XIII**, pp. 171, 427, xxxvii; 1906, **XV**, pp. 148, 412.  
affected by ions, 1904, **X**, pp. 225, 335.  
of hydrogen dioxide, 1905, **XIV**, p. 248.
- Cathartics**, 1898, **I**, p. 411.
- Cell**, chemistry of, 1905, **XIII**, p. xi; 1908, **XXI**, p. 105.  
division, 1905, **XV**, p. 46.  
division, artificial parthenogenesis in vertebrates, 1912, **XXIX**, p. 298.  
division, dynamics of, 1910, **XXVII**, p. 240.  
division, in unfertilized eggs, 1910, **XXVI**, p. 106.  
division, maturation, and fertilization, 1907, **XVIII**, p. 89.  
division, relation to calcium salts, 1911, **XXVII**, p. 289.  
function of inorganic salts in, 1908, **XXI**, p. 105.  
localization of potassium in, 1904, **X**, p. xliii.  
nucleus, oxidative properties, 1902, **VII**, p. 412.  
nucleus, rôle in oxidation and synthesis, 1902, **VI**, p. xv.  
substance, method of obtaining, 1903, **IX**, p. xviii.  
vital processes and physico-chemical structure, 1902, **VI**, p. xxvi.
- Cellulose**, digestion, 1902, **VI**, p. xiii.
- Centre of gravity**, determination in men, 1909, **XXIV**, p. 286.
- Centrifugal force**, effect on eggs of the sea urchin, 1909, **XXIII**, p. 460.  
effect on *Paramecium*, 1908, **XXI**, p. xiv.
- Centrifugalizing Arbacia eggs**, 1906, **XV**, p. xxi.
- Centrifuge**, 1905, **XIV**, p. 8.
- Cerebral activity**, under artificial circulation, 1906, **XVII**, p. 344.
- Cerebral arteries**, pressure in, 1908, **XXI**, p. 387.
- Cerebral injections**, 1900, **III**, p. ix.
- Cerebral localization**, 1909, **XXIII**, p. xiv.  
in man, 1909, **XXIII**, p. xxvi.
- Cerebral pressure**, following trauma, 1901, **VI**, p. 91.
- Cerebral vessels**, action of drugs on, 1907, **XX**, p. 206.  
constricted by adrenalin, 1905, **XV**, p. 452.  
vasomotor changes in, 1908, **XXI**, p. 454.
- Cerebrospinal fluid**, does it contain hypophyseal secretion? 1911, **XXIX**, p. 64.  
in hydrocephalus, 1903, **X**, p. 111.

**Cerebrospinal fluid**

modified by infundibular secretion, 1910, **XXVII**, p. 60.

**Cerebrum**, development, 1899, **II**, p. xv.

expressive motions after removal, 1904, **X**, p. xliii.

motor cortex in dog, 1904, **X**, p. xliii.

**Cervical sympathetic**, effect of section compared with removal of superior ganglion, 1903, **IX**, p. xviii.**Cetraria islandica** (Iceland moss), 1898, **I**, p. 455.**Chætopterus**, artificial parthenogenesis, 1901, **IV**, p. 423.**Chemotaxis**, 1899, **II**, p. 355; 1900, **III**, pp. 259, 310; 1901, **VI**, p. 33.**Chilomonas**, motor reactions, 1900, **III**, p. 307.**Chinic acid**, influence on elimination of uric acid, 1903, **IX**, p. xvi.**Chloretone**, 1900, **III**, p. xxvi.

effect on digestive ferments, 1900, **IV**, p. xv.

**Chlorides**, in animal and vegetable cells, 1906, **XV**, p. xxxi.

in nerve axon, 1906, **XV**, p. xxxi.

in urine, affected by diuretics, etc., 1903, **IX**, p. 425.

**Cholesterolin-esters**, 1899, **II**, p. 306.**Cholin**, from lecithin and brain tissue, 1904, **XII**, p. 353.

in intestine, 1899, **II**, p. viii.

**Chronoscope**, 1899, **II**, p. xiv.**Chyle**, 1907, **XVII**, p. 487; 1908, **XXI**, p. xxvi.**Cilia**, contractility of, 1908, **XXI**, p. xi.

reversal of, 1905, **XIV**, p. 1.

**Ciliary movement**, 1902, **VII**, pp. 25, 62; 1904, **X**, p. 419; 1905, **XIII**, pp. 1, 154, xiii.

*Arenicola*, 1901, **V**, p. 56.

**Ciliated epithelium**, action of ions upon, 1906, **XVII**, p. 89.**Circulation**, affected by forced breathing, 1911, **XXVIII**, p. 190.

artificial, through cerebrum, 1906, **XVII**, p. 344.

capillary, 1900, **III**, p. xii.

chemical regulation of vascular tone, 1911, **XXVIII**, p. 361.

cutaneous, 1900, **III**, p. xii.

effects of lesions of heart valves and "compensation" on, 1908, **XXI**, p. xxvii.

in acapnia and shock, 1910, **XXVII**, p. 152.

in cerebrum, 1905, **XIV**, p. 452.

in kidney, 1910, **XXVII**, p. 24.

influenced by exercise, 1904, **XI**, p. 59; 1911, **XXVII**, p. 446.

mass-movements, 1905, **XIV**, p. 287.

measurement of blood flow, 1911, **XXVII**, p. xx.

method for determining the rate of flow through an organ, 1909, **XXIII**, p. xxxvii.

migration of liquids in the absence of the heart, 1911, **XXVII**, p. xxix.

model, 1904, **X**, p. xxiii.

peripheral flow varies with temperature, 1910, **XXV**, p. xviii.

**Circulation**

- poisoning by morphine after removal of heart, 1912, **XXIX**, p. xxxiv.
- Coagulation**, in muscle, related to heat-shortening, 1909, **XXIX**, pp. 1, 178.
- of milk, 1903, **VIII**, p. xxxv.
- (See also Blood, coagulation.)
- Cocoon**, germination, 1901, **V**, p. xiv.
- Cæcum**, peristalsis in rabbit, 1907, **XVIII**, p. xiv.
- Collagen**, relation to gelatin, 1907, **XIX**, p. xi.
- Colloidal solutions**, osmotic pressure of, 1907, **XX**, p. 127.
- osmotic properties, 1902, **VII**, p. 261.
- Colloidal strychnine**, 1906, **XV**, p. xxii.
- Colloids**, 1905, **XV**, p. 46; 1906, **XV**, p. xii.
- coagulation, and contractility, 1906, **XV**, p. xii; **XVI**, p. 117.
- osmotic pressure, 1907, **XIX**, p. xvi.
- precipitation, 1905, **XIV**, p. 203.
- Color**, demonstration methods, 1899, **II**, p. xx.
- Color-sense**, frog, 1903, **IX**, p. 466.
- Color vision**, 1898, **I**, p. xv.
- Coloring matter**, in pitcher plant, 1905, **XIII**, p. xxxiii.
- Compensatory movements**, 1912, **XXIX**, p. 367.
- Compressibility**, of gelatine solutions and of muscle, 1908, **XXI**, p. 248.
- Conductivity**, of heart muscle lessened by tonus, 1905, **XIII**, p. xxiii.
- of nerve, affected by stretching, 1911, **XXVII**, p. 323.
- of nerve and muscle, affected by pressure, 1911, **XXVII**, p. 308.
- Connective tissue**, chemistry, 1901, **V**, p. 287.
- in muscle, 1900, **IV**, p. 260.
- mucoids, digestibility of, 1904, **XI**, p. 330.
- proteins, 1900, **III**, p. v.
- Contact irritability**, 1902, **VII**, p. 320.
- without precipitation of calcium salts, 1904, **X**, p. 324.
- Contractility**, affected by ions, 1906, **XVII**, p. 89; 1908, **XXI**, p. 200; **XXII**, p. 75;
- 1909, **XXIV**, p. 459.
- and coagulation of colloids, 1906, **XV**, p. xii; **XVI**, p. 117.
- fibrillar, 1908, **XXII**, p. 75.
- Contraction**, static, methods of determining, 1898, **I**, p. 284.
- Contractions**, rhythmical, in *Gonionemus*, 1909, **XXIV**, p. 117.
- Cooking**, effect on digestibility, 1904, **XI**, p. 358.
- Corals**, composition of, 1904, **XII**, p. 95.
- Coronary arteries**, closure, 1899, **II**, p. 263.
- distribution, 1899, **II**, p. 248.
- pressure in, 1908, **XXI**, p. 389.
- pressure in, affects heart beat, 1907, **XVIII**, p. 14.
- Coronary circulation**, volume of, method of recording, 1898, **I**, p. 215.
- Coronary pulse-wave**, 1898, **I**, p. 152.
- Coronary veins**, nourish the heart, 1898, **I**, p. 86.

- Coronary vessels**, compressed in systole, 1898, **I**, p. 145.  
     innervation of, 1909, **XXIII**, p. xxiv; **XXIV**, p. 391.
- Corpus luteum**, 1911, **XXVII**, p. xxii.
- Cortex**, nerve cells, amœboid movements, 1899, **II**, p. xiii.
- Coyote**, urine, 1905, **XIII**, p. 30.
- Crayfish**, psychophysiology, 1900, **III**, p. 404.
- Creatin**, determination, 1907, **XVIII**, p. 397.  
     elimination, 1907, **XVIII**, p. 406.  
     excretion, 1908, **XXIII**, p. 1.
- Creatinin and creatin excretion**, 1908, **XXIII**, p. 1.
- Creatinin**, determination, 1907, **XVIII**, p. 397.  
     elimination, 1905, **XIII**, p. xix; 1906, **XVI**, p. 252; 1907, **XVIII**, p. 377;  
         **XIX**, p. 97.  
     elimination in artificial fever, 1912, **XXIX**, p. xviii.  
     excretion in pig, 1911, **XXIX**, p. 210.  
     origin, 1905, **XIII**, p. xix.  
     output in man, 1909, **XXIV**, p. 45.  
     relation of excretion to diet, 1905, **XV**, p. 15.
- Cross-fertilization**, 1901, **VI**, p. 216.
- Culture media**, 1907, **XVII**, p. 443.
- Cupric acetate**, oxidizing power of, 1907, **XIX**, p. 199.
- Curare**, action on circulation, 1910, **XXVI**, p. 233.  
     effect on muscle in yield of carbon dioxide, 1906, **XV**, p. xxviii.  
     relation to "nerve ending" and "receptive substance," 1908, **XXI**, p. xxvi.
- Cypris**, reaction to light, 1900, **IV**, p. 405.
- Cystinuria**, 1905, **XIV**, p. 54.

## D

- Daphnia**, reaction to light, 1900, **IV**, p. 405.
- Defecation**, 1902, **VI**, p. 269.
- Degeneration**, in nerve tissue, 1906, **XV**, p. 272.
- Deglutition**, 1899, **II**, p. 266; 1901, **V**, p. xvii.  
     studied with Röntgen rays, 1898, **I**, pp. 435, xii.
- Dendrites**, amœboid movements, 1899, **II**, p. xiii.
- Depressor nerve**, 1900, **III**, p. xxiii.  
     in guinea-pig, 1898, **I**, p. 393.  
     relation to aortic pressure, 1908, **XXI**, p. 394.  
     relation to vasomotor centre, 1900, **IV**, p. 283; 1912, p. **XXX**, 369.
- Desiccation**, an improved method, 1909, **XXIV**, p. 325.
- Development**, affected by alcohol, 1898, **I**, p. xv.  
     index for egg of domestic fowl, 1902, **VI**, p. 351.  
     of eggs affected by mechanical shock, 1903, **VIII**, p. 301.  
     of sea-urchin eggs affected by potassium cyanide and lack of oxygen, 1902,  
         **VI**, p. xxvi.



- Dextrose**, from pancreatic digest, 1903, **IX**, p. 380.  
origin from cellulose, 1911, **XXVII**, p. 467.  
origin from cellulose in digestion, 1902, **VI**, p. xiii.
- Diabetes**, 1898, **I**, p. 395; 1899, **III**, p. 139; 1901, **VI**, p. 173; 1903, **VIII**, p. xxxii; 1905, **XIII**, p. xxxvi.  
pancreatic, influenced by pancreatic extract, 1912, **XXIX**, p. 306.  
phlorhizin, 1898, **I**, p. 395; 1901, **VI**, p. 173.  
phlorhizin, influence on lactation, 1900, **IV**, p. xi.  
phlorhizin, influenced by mechanical energy, 1907, **XVIII**, p. xii.  
phlorhizin, metabolism in, 1899, **III**, p. 139; 1911, **XXVIII**, p. 71.  
phlorhizin, respiration, 1903, **X**, p. 47.  
phlorhizin, respiration experiments, 1903, **IX**, p. xviii.
- Diaphragm**, apparatus for illustrating its action, 1903, **VIII**, p. xlii.
- Diastase** in cat's saliva, 1908, **XXII**, p. 1.
- Diastases** in the blood and the body fluids, 1908, **XXIII**, p. 148.  
serum and lymph, relation of pancreas to, 1911, **XXIX**, p. 165.  
serum, relation to kidneys, 1911, **XXIX**, p. 182.
- Diet**, 1905, **XIII**, p. 117.  
affects ptyalin secretion, 1910, **XXVI**, p. 169.  
carbohydrates influence respiratory exchange, 1912, **XXX**, p. 217.  
relation to respiratory quotient, 1911, **XXVII**, p. 383.  
relation to secretion, 1906, **XV**, p. 406.
- Digestibility**, coefficients, 1904, **X**, p. xxx.  
of connective tissue mucoids, 1904, **XI**, p. 330.  
of proteins, 1909, **XXIII**, p. 420.
- Digestion** by papain, 1898, **I**, p. 255.  
elasmobranchs, 1905, **XV**, p. 42.  
influence on animal heat processes, 1900, **IV**, p. 397.  
influenced by alcohol, 1898, **I**, p. 164.  
liver, 1904, **X**, p. xxxviii.  
of cane-sugar, 1898, **I**, p. 277.  
of cellulose, 1911, **XXVII**, p. 467.  
of elastic tissue proteins, 1902, **VII**, p. 111.  
pancreatic, 1902, **VII**, p. 387; 1904, **X**, p. xxxviii.  
rate in cold-blooded vertebrates, 1900, **XXIV**, p. 447.  
relation to respiratory quotient, 1911, **XXVII**, p. 383.  
salivary, 1906, **XVII**, p. 26.  
salivary, in stomach, 1903, **VIII**, p. xxviii.  
tryptic, 1904, **X**, p. xxxix.
- Digestive ferments**, activity affected by chloretone, 1900, **IV**, p. xv.
- Distemper**, affected by alcohol, 1898, **I**, p. xv.
- Distilled water**, effect on *Paramecium*, 1908, **XXIII**, p. 48.
- Diuresis**, 1902, **VI**, p. xvi.
- Diuretics**, effect on chlorides of urine, 1903, **IX**, pp. 425, xii.  
saline solutions, 1903, **IX**, p. 454.

**Diuretics**

with diet poor in salts, 1904, **X**, p. 362.

**Drying apparatus**, 1905, **XIV**, p. 9.

**Duodenum**, inhibition of, during contraction of stomach, 1911, **XXVII**, p. xxxi.

**Dynamograph**, 1898, **I**, p. 284.

**E**

**Ear**, function in fishes, 1898, **I**, p. 128.

functions in dancing mouse, 1907, **XVIII**, p. xviii.

**Earth-currents** in a physiological laboratory, 1900, **IV**, p. iv.

**Earthworm**, movements influenced by temperature, odors, light and contact.

1902, **VI**, p. 459.

reactions to salts, 1906, **XVII**, p. 55.

**Eck fistula**, 1905, **XIII**, p. xiv; 1908, **XXI**, p. 259.

**Edestin**, 1900, **III**, p. iv.

analysis of, 1910, **XXVI**, p. 295.

decomposition products, 1901, **VI**, p. 48.

**Egg**, affected by centrifugal force, 1909, **XXIII**, p. 460.

chemical changes in development, 1900, **III**, p. xii.

chemistry of yoke-platelets and pigment, 1909, **XXV**, p. 195.

cleavage, rhythms of susceptibility, and of carbon dioxide production, 1904, **XI**, p. 52.

development affected by potassium cyanide and lack of oxygen, 1902, **VII**, p. 56.

echinoderm, fertilization affected by neutral salts, 1910, **XXV**, p. xxiii.

echinoderm, relation of catalase to fertilization, 1909, **XXV**, p. 199.

electrical potential during development, 1904, **XII**, p. 241.

membrane, permeability, 1905, **XIV**, p. 354.

presence of mono-amido-acids during development, 1902, **VI**, p. xxvi.

purine, pentose, and cholesterol content, 1908, **XXI**, p. 77.

**Elasmobranchs**, digestive tract, 1905, **XV**, p. 42.

**Elastic tissue proteins**, 1902, **VII**, p. 93.

**Elastin**, 1902, **VII**, p. 93.

decomposition products, 1900, **III**, p. xxxi.

preparation, 1901, **V**, p. xi.

**Electric signal**, 1908, **XXI**, p. xxvii.

**Electric water bath**, 1905, **XIV**, p. 10.

**Electrical charge of ions**, influences physiological action, 1902, **VI**, p. 411.

**Electrical conductivity**, measurement of, 1905, **XIII**, p. 139.

**Electrical convection**, of cells and nuclei, 1903, **VIII**, p. 273.

**Electrical polarity**, in hydroids, 1903, **VIII**, p. 294.

**Electrical potential**, in developing eggs, 1904, **XII**, p. 241.

**Electricity**, action on infusoria, 1900, **IV**, p. 96.

effect on organism, 1901, **V**, p. 301.

**Electricity**

physiological action, 1900, **III**, p. xxxi.

**Electrode**, non-polarizable, 1899, **II**, p. xx.

**Electrodynamometer**, 1898, **I**, p. 106.

**Electrolytes**, action on muscle and nerve, 1910, **XXV**, p. xxii.

affect osmotic pressure of colloidal solutions, 1907, **XX**, p. 127.

affect osmotic pressure of proteins, 1907, **XIX**, p. xvi.

and non-conductors affect rigor, 1902, **VII**, p. 1.

**Electro-magnetic signal**, 1903, **VIII**, p. xxii.

**Electrotaxis**, reactions of infusoria, 1900, **IV**, p. 96.

**Embryo**, chemistry of, 1908, **XXI**, pp. 64, 69, 77, 85, 95, 99.

development affected by Röntgen rays, 1904, **X**, p. 222.

development under simultaneous action of pilocarpine and atropine, 1904, **X**, p. 352.

enzymes in, 1907, **XX**, pp. 81, 97.

glycogen in, 1907, **XX**, p. 117.

normal measurements, 1902, **VI**, p. 351.

purin metabolism of, 1907, **XIX**, p. xvii.

**Emotions**, cause glycosuria, 1911, **XXIX**, p. 280.

**Energy**, muscular, source, 1903, **VIII**, p. xlii.

**Entomostraca**, reaction to light, 1899, **III**, p. 157; 1900, **IV**, p. 405.

**Enzyme**, spermatozoa, 1901, **VI**, p. 53.

**Enzymes**, 1905, **XIV**, p. 299; 1906, **XV**, pp. 148, xiii.

influenced by heat, 1902, **VII**, p. 295.

inverting of alimentary tract, 1907, **XX**, p. 81.

of embryo transform glycogen, 1908, **XXI**, p. 64.

proteolytic, 1904, **XII**, p. 1.

relation of secretion to blood supply, 1900, **XXIV**, p. 234.

**Epinephrin**, 1899, **II**, pp. iii, iv; 1900, **III**, p. xvii; 1903, **VIII**, p. xxxiii; **IX**, p. xvii.

chemistry, 1901, **V**, p. v.

effect on intestinal contractions, 1912, **XXIX**, p. 363.

oxidation, 1903, **VIII**, p. xxxi.

physiological action, 1901, **V**, pp. v, vii.

**Equilibrium**, in solutions of phosphates, 1906, **XV**, p. 257; **XVI**, p. 188.

nerve control of, 1910, **XXVII**, p. 207.

**Ergograph**, 1901, **V**, p. 240; 1902, **VI**, p. xxiii.

technique, 1900, **III**, p. ix.

**Ergot**, action on stomach and intestines, 1906, **XVII**, p. 143.

production of peristalsis, 1906, **XV**, p. xxxi.

**Ether-anæsthesia**, by the rectum, 1898, **I**, p. viii.

**Etherizing bottle**, 1899, **II**, p. x.

**Ethyl salicylate**, pharmacology of, 1905, **XIII**, pp. 331, xxxvii.

**Eustachian pouches of horse**, 1910, **XXVI**, p. 229.

**Excelsin**, hydrolysis of, 1907, **XIX**, p. 53.

- Excretion of inorganic compounds**, 1904, **XI**, p. 5; 1906, **XVI**, pp. 147, 152.
- Exercise**, blood pressure in, 1901, **V**, p. 95.  
 effect on circulation, 1904, **XI**, p. 59; 1911, **XXVII**, p. 446.  
 effect on excretion of carbon dioxide, 1904, **XII**, p. 311.  
 effect on metabolism, 1911, **XXVIII**, p. 291.  
 effect on venous blood pressure, 1910, **XXV**, p. xxiv; 1911, **XXVIII**, p. 235.
- Eye**, constants of pupillary reaction, 1911, **XXVII**, p. xxviii.  
 effect of carbon dioxide in the pupil, 1909, **XXIII**, p. xvi.  
 errors of eccentricity in, 1905, **XII**, p. 304.  
 errors of eccentricity and collimation, 1906, **XV**, p. 295.  
 movements in horizontal meridian plane of field of regard, 1903, **VIII**, p. 307.  
 movements, relation to visual stimuli, 1903, **IX**, p. 122.  
 origin in vertebrates, 1909, **XXV**, p. 77.  
 pupil dilated by stimulation of splanchnic, probably by adrenalin, 1912, **XXIX**, p. xxxiv.  
 pupillometer experiments, 1911, **XXVII**, p. xxviii.  
 reaction to light, 1903, **X**, p. 28.  
 shadow pupillometer, 1911, **XXVII**, p. xiv.  
 visual acuity influenced by illumination of, 1911, **XXIX**, p. 76.

## F

- Faradic stimulation**, 1910, **XXVI**, p. 181; **XXVII**, p. 226.  
 calibration of inductorium, 1908, **XXII**, p. 116.  
 the measurement of "make" shocks, 1909, **XXIV**, p. 269.  
 variable factors, 1908, **XXII**, p. 61.
- Fasting**, leucocytes in, 1912, **XXX**, p. 174.  
 protein metabolism in, 1908, **XXI**, p. xxv.
- Fat**, absorption, 1901, **VI**, p. 17; 1902, **VI**, p. 331; 1909, **XXIV**, pp. 294, 493;  
 1910, **XXV**, p. xxviii.  
 absorption by salmon stomach, 1912, **XXX**, p. 278.  
 absorption from an isolated loop of intestine in healthy dogs, 1908, **XXIII**,  
 p. 65.  
 absorption in stomach, 1912, **XXIX**, pp. xxxvi, xxxvii.  
 combination with protein, 1902, **VII**, p. 331.  
 composition and heat of combustion, 1900, **IV**, p. 69.  
 extraction from liquids, 1899, **III**, p. 183.  
 formation, 1907, **XVIII**, p. xix.  
 hydrolysis and synthesis by platinum black, 1903, **X**, p. 191.  
 metabolism in salmon, 1912, **XXIX**, p. xxxix.  
 produced from protein by bacillus pyocyaneus, 1905, **XII**, p. 466.
- Fatigue**, affected by alcohol, 1898, **I**, p. xv.  
 muscular. *See* Muscle, fatigue.  
 neuro-muscular, 1901, **V**, p. 240.  
 of spinal cord, 1909, **XXIV**, p. 384.

- Fatty degeneration**, metabolism in, 1898, **I**, p. v.  
**Ferment**, glycogenolytic, 1910, **XXV**, p. 255.  
**Ferments**, affected by shaking, 1909, **XXV**, p. 81.  
    occurrence in embryos, 1907, **XIX**, p. xix.  
    reversible action, 1901, **V**, p. xii.  
    separation by electric current, 1912, **XXIX**, p. 330.  
**Fertilization**, 1899, **III**, p. 135; 1900, **III**, p. 434; **IV**, p. 178; 1901, **IV**, p. 423.  
    relation to development, 1903, **VIII**, p. 430.  
**Fever**, alloxuric bases in, 1904, **X**, p. 452.  
    influence on reducing action of organism, 1905, **XII**, p. 457.  
    metabolism in, 1909, **XXIV**, p. 203.  
    metabolism in, especially of creatinin, 1912, **XXIX**, p. xviii.  
    protein metabolism in, 1909, **XXIII**, p. xxxvii.  
    sometimes caused by xanthin, 1907, **XX**, p. 439.  
**Fibrillary contractions of heart**, 1898, **I**, pp. 71, 99; 1902, **VI**, p. xxv.  
**Fibrin**, swelling, 1907, **XX**, p. 330.  
**Fibrinogen**, formed by liver, 1912, **XXIX**, p. xix.  
    origin, 1899, **III**, p. 53.  
**Firefly**, production of light by, 1910, **XXVII**, p. 122.  
**Fishes**, compensatory motions, 1900, **IV**, 77.  
    integumentary nerves of, 1905, **XIV**, p. 413; 1909, **XXV**, p. 77.  
    olfactory sense of, 1911, **XXVII**, p. xix.  
    relation of, to their medium, 1907, **XIX**, p. 61.  
**Flicker photometer**, 1899, **II**, p. xx.  
**Food**, carbohydrates of apple, 1912, **XXX**, p. 258.  
    passage from stomach and through intestines, 1904, **XII**, p. 387.  
**Foods**, digestibility and availability, 1904, **X**, p. xxx.  
**Formaldehyde**, action, 1902, **VI**, p. 325.  
    action on blood, 1903, **IX**, p. 187.  
    combination with Witte's peptone, 1902, **VII**, p. 220.  
**Friction-machine**, 1898, **I**, p. 294.  
**Frog**, long survival after removal of cerebral hemispheres, 1903, **VIII**, p. xlii.  
    muscles of thigh, 1907, **XX**, p. 1.  
    reaction to light, 1903, **X**, p. 28.  
**Frog-table**, 1903, **VIII**, p. xxii.  
**Frontal lobes** (cerebral), associations, 1902, **VI**, p. xxvii.  
    localization of habits, 1902, **VIII**, p. 1.  
**Fundulus eggs** and embryos immune to electrical stimulation, 1903, **IX**, p. 111.  
**Fungi**, composition and nutritive value, 1898, **I**, p. 225.

## G

- Galvanometer**, 1909, **XXIII**, p. xxxvii.  
    Rowland, 1898, **I**, p. 106.  
**Galvanotaxis**, in lobster, 1907, **XIX**, p. 39.

- Galvanotropism**, in bacteria, 1908, **XXII**, p. 202.  
 of Volvox, 1906, **XV**, pp. 235, xxxi.
- Gasserian ganglion**, extirpation, 1903, **VIII**, p. xxvii.
- Gastric and peritoneal cauterization**, acute effects of, 1907, **XIX**, p. xv.
- Gastric cannula**, 1898, **I**, p. 191.
- Gastric juice**, absence of inverting enzyme, 1904, **X**, p. xxi.
- Gastric secretion**, stimulated by alcohol, etc., 1903, **VIII**, p. xvii.
- Gelatin**, digestion, 1903, **VIII**, p. xxiii.  
 in place of protein, 1905, **XIII**, p. xxix.  
 nutritive value, 1907, **XIX**, p. 285; **XX**, p. 234.  
 relation to collagen, 1907, **XIX**, p. xi.  
 solutions, compressibility, 1908, **XXI**, p. 248.  
 sparing action, 1907, **XVIII**, p. xii.  
 tryptic digestion, 1904, **X**, p. xxxix.
- Gelatoses**, glycol, 1902, **VI**, p. xxvi.
- Geotropism**, 1905, **XIII**, p. xv.  
 in Paramecium, 1903, **IX**, p. 238; 1905, **XIV**, p. 421.
- Gestation**, protein metabolism in, 1909, **XXIII**, p. xxxi.
- Gila monster**, poisonous secretion, 1900, **IV**, p. 209.
- Glands**, self-digestion, 1904, **X**, p. xxxviii.
- Glandular extracts**, effect on blood pressure, 1904, **XI**, p. 282.
- Gliadin**, decomposition product, 1907, **XVIII**, p. 123.  
 hydrolysis from rye, 1908, **XX**, p. 494.
- Globulin** of squash seed, hydrolysis of, 1907, **XIX**, p. 475.  
 solubility in salt solution, 1905, **XIV**, p. 151.
- Glomerular secretion**, 1902, **VII**, p. 284.
- Glucophosphoric acid**, 1902, **VI**, p. xxvi; 1903, **VIII**, p. xi.
- Glucoproteid**, 1900, **III**, p. vi.  
 in bone, 1901, **V**, p. xv.
- Glucose**, in saliva, 1908, **XXI**, p. xxv.
- Glucothionic acid**, 1903, **VIII**, p. xi.  
 estimation of, 1910, **XXVI**, p. 420.  
 proportion yielded by proteins, 1906, **XV**, p. 333.
- Glycinin from soy bean**, hydrolysis of, 1907, **XIX**, p. 468.
- Glycol** in gelatoses, 1902, **VI**, p. xxvi.
- Glycogen** affected by inulin, 1900, **IV**, p. 246.  
 distribution over the liver, 1911, **XXVII**, p. 341.  
 formation from proteins, 1903, **IX**, p. 138.  
 in embryo pig, 1907, **XX**, p. 117.  
 removal from human subject, 1911, **XXVII**, p. xxii.  
 transformation by embryonic enzymes, 1908, **XXI**, p. 64.  
 transformation into dextrose, 1905, **XIV**, p. 105.
- Glycogenolysis**, 1911, **XXVII**, p. 341.
- Glycolysis**, 1907, **XVIII**, p. 283; 1908, **XXI**, p. 351.
- Glycosuria**, 1904, **X**, p. 378; 1907, **XIX**, p. 314.

**Glycosuria**

- affected by stimulating the splanchnic nerve, 1911, **XXVIII**, p. 403.
- and acapnia, 1911, **XXVIII**, p. 275.
- and adrenalectomy, 1910, **XXVI**, p. 287.
- by adrenalin, after thyroidectomy, 1911, **XXVII**, p. 331.
- distribution of ferment, 1910, **XXV**, p. 255.
- emotional, 1911, **XXIX**, p. 280.
- experimental, 1907, **XIX**, p. 388.
- from adrenalin, 1906, **XVII**, p. 42.
- from asphyxia, 1909, **XXIII**, p. 278.
- mechanism of, 1907, **XVIII**, p. 256.
- phlorhizin, affected by cold and mechanical exercise, 1908, **XXII**, p. 163.
- phlorhizin, relation to glutamic acid, 1908, **XXII**, p. 174.
- relation of adrenal glands to sugar production by the liver, 1912, **XXIX**, p. 419.
- relation to splanchnic fibres, 1908, **XXII**, pp. 373, 397.
- salt, mechanism, 1906, **XV**, pp. 321, xx.

**Glycuronic acid**, origin, 1903, **VIII**, p. xiii.

**Gonionemus**, sensory reactions, 1902, **VI**, p. 434.

**Goose-skin**, voluntary, 1902, **VII**, p. 369.

**Gravity**, affects reactions of cyclops, 1907, **XVIII**, p. 47.

**Growth**, affected by lecithin, 1903, **X**, p. 57.

- affected by Röntgen rays, 1904, **X**, p. 222.

- affected by temperature, 1902, **VI**, p. 351.

- chemistry of, 1908, **XXI**, pp. 64, 69, 77, 85, 95, 99.

- in partial starvation, 1907, **XVIII**, p. 309.

- law of, 1906, **XV**, p. xvii.

- of children, seasonal variations, 1901, **V**, p. xvii.

- on diet of skimmed milk, 1902, **VIII**, p. 197.

- rôle of proteins in, 1912, **XXIX**, p. xii.

**Guaic reaction**, 1908, **XXI**, p. xxvi.

**Guinea-pig**, cardiac nerves in, 1898, **I**, p. 383.

**H**

**Habit formation**, related to intensity of stimulus, 1909, **XXIII**, p. xiii.

**Habits**, localization, 1902, **VIII**, p. 1.

**Hæmoglobin**, hourly variations, 1904, **XI**, p. 394.

**Hæmolysins**, production of, 1904, **XI**, p. 250.

**Hæmolysis**, 1902, **VIII**, p. 103; 1903, **IX**, p. 187; 1904, **XII**, pp. 139, 184, 363.

- cold, 1903, **IX**, p. 72.

**Hæmolytic power of serum and lymph**, related to lymph formation, 1908, **XXI**, p. 236.

**Hagfish**, caudal heart, 1900, **III**, p. 366.

- circulatory system, 1902, **VI**, p. xii.



**Hagfish**

innervation of heart, 1902, **VI**, p. 318.

**Hair**, human, comparative chemical composition, 1906, **XV**, p. xxxi.

**Hair-cast of stomach**, 1901, **V**, p. xvii.

**Hairs**, sensibility of, following nerve division, 1909, **XXIII**, p. xxii.

**Hand drums**, 1900, **IV**, p. xv.

**Head holder for rabbits**, 1904, **X**, p. xliii.

**Heart**, acceleration, 1907, **XIX**, p. xix.

accelerator nerves, 1899, **II**, pp. 395, ix.

accelerator nerves in molluscs, 1904, **XII**, p. 55.

action of alkaloids of *Papaveraceæ* upon, 1909, **XXIII**, p. 389.

action of blood proteins on, 1910, **XXV**, p. 419.

action of cyanides on, 1907, **XIX**, p. 223.

action of digitalis group on, 1912, **XXIX**, p. xvi.

action of drugs on, 1906, **XVII**, p. 177.

action of ions, 1900, **IV**, p. 265.

action of magnesium sulphate on, 1907, **XIX**, p. 5; **XX**, p. 323.

action of vagus on rhythm, 1911, **XXVIII**, p. 330.

activity and osmotic pressure, 1906, **XV**, pp. 357, xxxi.

activity influenced by temperature, 1906, **XV**, p. 207.

Adams-Stokes disease, 1905, **XIII**, p. xxvi.

affected by certain toxic products of the typhoid bacillus, 1900, **IV**, p. viii.

after isolation from extrinsic nerve impulses, 1907, **XX**, p. 407.

anæmia, 1899, **II**, p. 257.

auricular strips, rhythmical contractions of, 1910, **XXVII**, p. 87.

auriculo-ventricular bundle, 1909, **XXIV**, p. 375.

beat, affected by expressed tissue juices of muscle, 1907, **XIX**, p. 426.

beat, affected by sodium, 1902, **VI**, p. xxv.

beat, nervous origin, 1904, **XII**, p. 67; 1905, **XII**, p. 471.

caudal, of hagfish, 1900, **III**, p. 366.

cause of contraction, 1898, **II**, p. 47.

conduction, 1904, **XII**, p. 67; 1905, **XV**, pp. 1, 99; 1911, **XXVIII**, p. 249.

conduction of excitation wave, 1898, **I**, p. 502.

conduction within, 1899, **II**, p. 404.

conductivity of myocardium, 1908, **XXI**, p. 11.

contractility affected by salts, 1906, **XVI**, p. 191.

contraction interval, 1898, **I**, p. 493.

co-ordination, 1899, **II**, p. 127; 1904, **XII**, p. 67.

co-ordination of ventricles, 1904, **X**, p. xvi.

diagram of work, 1909, **XXIII**, p. xxxvii.

distention influences intramural flow, 1898, **I**, p. 215.

effect of calcium infusions on the irritability of the vagus, 1909, **XXIII**, p. xx.

electrical changes during vagus stimulation, 1912, **XXX**, p. 271.

embryonic rhythm, 1908, **XXI**, p. 1.

Engelmann's incisions, 1899, **II**, p. 131.

## Heart

- excitability, 1906, **XVI**, p. 67.
- extra systoles, 1906, **XVI**, p. 160; 1907, **XVIII**, p. 222.
- extra systoles caused by stimulation of the Keith-Flack node, 1912, **XXX**, p. 421.
- fatigue, 1899, **II**, pp. 121, 414.
- fibrillary contraction, 1898, **I**, p. 71; 1902, **VI**, p. xxv.
- fibrillation, affected by cardiac nerves, 1908, **XXI**, p. 283.
- filling, 1906, **XVI**, p. 325.
- force, 1898, **I**, p. 497.
- frequency, 1898, **I**, p. 500.
- frequency related to aortic pressure, 1908, **XXI**, p. 373.
- ganglion affected by absence of oxygen, 1906, **XV**, p. xxxi.
- hagfish, innervation, 1902, **VI**, p. 318.
- heat standstill, 1906, **XV**, p. 207.
- in acapnia and shock, 1909, **XXIII**, p. 345.
- infarction, 1899, **II**, p. 243.
- influenced by coronary pressure and by nutrition, 1907, **XVIII**, p. 14.
- influenced by salts and non-electrolytes, 1908, **XXII**, p. 16.
- influenced by vagus nerve, 1898, **I**, p. 486.
- inhibition, 1905, **XIII**, p. 217; 1906, **XV**, pp. 280, xiv; 1907, **XIX**, p. xix.
- inhibition, by potassium chloride, 1904, **XI**, p. 370.
- inhibition, by single induced shock, 1906, **XVI**, p. 100.
- inhibition, metabolism in, 1910, **XXV**, p. xxv.
- inhibition of tonus, 1906, **XVI**, p. 105.
- inhibition, theory of, 1910, **XXV**, p. xvi.
- inhibitory nerves, 1899, **II**, p. 395.
- innervation, 1903, **X**, p. 1.
- innervation of coronary vessels, 1909, **XXIII**, p. xxiv; **XXIV**, p. 391.
- intramural circulation increased by systole, 1898, **I**, p. 157.
- invertebrate, 1905, **XIV**, p. 16; 1906, **XVI**, pp. 47, 67, 85, 100.
- mammalian, method of isolating, 1898, **I**, pp. 93, 215, 511.
- maximal contraction, "staircase" contraction, refractory period, compensatory pause, 1902, **VIII**, p. 213.
- metabolism, 1910, **XXV**, p. xxv.
- metabolism, calcium and potassium, 1907, **XIX**, p. xix.
- metabolism during inhibition, 1910, **XXV**, p. xxv.
- metabolism on stimulation of the accelerator nerve, 1908, **XXIII**, p. 174.
- method of studying, 1909, **XXIII**, p. xxxiii.
- Molgula manhattensis* (Verrill), 1903, **X**, p. 1.
- muscle, 1906, **XVII**, p. 1.
- muscle, affected by chloral-hydrate, 1906, **XVI**, p. 483.
- muscle, affected by chlorides, 1905, **XIV**, p. 73.
- muscle, affected by ions, 1904, **XI**, p. 103.
- muscle, affected by sodium chloride, 1902, **VIII**, p. 75.

**Heart**

- muscle, influence of salts on automatic contractions, 1901, **VI**, p. 181.
- muscle, structure, 1908, **XXI**, p. xxvi.
- muscle, tonus, 1903, **VIII**, p. xxvi; 1905, **XV**, p. 1; 1912, **XXX**, p. 182.
- muscle, tonus lessens conductivity, 1905, **XIII**, p. xxiii.
- nerve and muscle reaction to drugs, 1908, **XXI**, p. 230.
- nerves, 1906, **XV**, p. 127.
- nerves, compression in *Limulus*, 1912, **XXX**, p. 283.
- nerves in guinea-pig, 1898, **I**, p. 383.
- nerves in lampreys, 1906, **XVI**, p. 230.
- nerves in molluscs, 1905, **XIII**, p. 396; **XIV**, p. 16.
- normal sequence, 1898, **II**, p. 69.
- nutrient solutions, 1898, **II**, pp. 57, 82.
- nutrition through vessels of Thebesius and coronary veins, 1898, **I**, pp. 86, 516.
- output of, 1909, **XXIII**, p. 345.
- oxygen absorption and consumption, 1906, **XV**, p. 303.
- oxygen at high tension replaces red corpuscles, 1898, **I**, p. 516.
- perfusion method, 1899, **II**, p. 274.
- perfusion with oil, 1906, **XV**, p. 121.
- potassium output affected by vagus inhibition, 1908, **XXI**, p. 51.
- pressure curve, 1905, **XIII**, p. xxv.
- pulsating blood vessels in worms, 1908, **XXII**, p. 353.
- Purkinje tissue, 1912, **XXIX**, p. xxv; **XXX**, p. 395.
- rate, artificial regulation of, 1907, **XVIII**, p. xv.
- rate influenced by respiration, 1900, **III**, p. 205.
- rate influenced by temperature, 1906, **XVII**, p. 350; 1911, **XXVIII**, p. 81.
- rate, regulated by carbon dioxide, 1908, **XXI**, p. 126.
- rate, relation to anaemia, 1908, **XXI**, p. xvi.
- reaction to animal extracts, bacterial cultures, culture filtrates, 1899, **II**, pp. 273, v.
- reflex acceleration, 1899, **II**, p. 429.
- reflex acceleration independent of cardio-inhibitory centre, 1907, **XIX**, p. 417.
- refractory period, 1905, **XV**, p. 8; 1906, **XVI**, p. 67; 1907, **XVIII**, p. 71; 1908, **XXI**, p. 19; **XXII**, p. 133.
- relation of calcium to cardio-inhibitory function of vagus, 1912, **XXIX**, p. xi.
- relation of inorganic salts to contractility, 1909, **XXIV**, p. 263.
- relation of sino-auricular node to auricular rhythm, 1912, **XXX**, p. 358.
- relation of vagus action to temperature, 1909, **XXIV**, p. 341.
- relation to respiratory metabolism, 1911, **XXVII**, p. xviii.
- respiration, 1906, **XV**, p. 371.
- resuscitation by adrenalin, 1909, **XXIII**, p. xxi.
- rhythm, 1906, **XVI**, p. 47; 1907, **XVII**, p. 478.
- rhythm, affected by electrolytes, 1906, **XVI**, pp. 221, 378.
- rhythm, affected by sodium chloride, 1905, **XIV**, p. 433.
- rhythm, effect of ions on, 1905, **XIII**, p. 192.

**Heart**

- rhythm, in isotonic solutions of non-electrolytes 1907, **XVIII**, p. 64.
- rhythm, in *Limulus*, 1908, **XXI**, p. 1.
- rhythmic contractility affected by inorganic and organic solutions, 1899, **III**, p. 123.
- rhythmic contractions, 1900, **III**, p. 383.
- rhythmicity and conductivity in auricles, 1907, **XIX**, p. 125.
- rigor affected by vagus stimulation, 1908, **XXI**, p. xiv; 1909, **XXIII**, p. xxviii; **XXV**, p. 113.
- secondary rhythms, 1899, **III**, p. 201.
- stimulation by diffusing salts, 1906, **XVII**, p. 35.
- stimulation by tension, 1907, **XVIII**, p. 149.
- studied by observing strips of the auricle, 1909, **XXIII**, p. xxxiii.
- synchronism of ventricles, 1899, **II**, p. 131.
- tone waves, 1898, **II**, p. 73.
- vagus inhibition, 1906, **XV**, pp. 280, xiv; 1908, **XXI**, pp. 51, xxv.
- vagus inhibition affected by calcium, 1912, **XXX**, p. 105.
- vasomotor nerves, 1900, **III**, p. xxiv.
- vasomotor nerves, method of studying, 1912, **XXIX**, p. xxxi.
- ventricular output and auricular systole, 1911, **XXIX**, p. 32.
- ventricular rate and heart block affected by vagi, 1912, **XXX**, p. 451.
- volume curve, 1906, **XVI**, p. 325.
- volume curve of ventricle, 1905, **XIII**, p. xxiv.
- voluntary control, 1899, **II**, p. 463.
- work done, 1899, **II**, p. 113.
- Heart block**, 1905, **XIII**, p. xxvi; 1906, **XV**, pp. 153, xxxi; **XVI**, p. 160; 1908, **XXI**, p. xviii; 1912, **XXX**, pp. 283, 451.
- by compression of heart nerves, 1912, **XXIX**, p. xxi.
- Heart lever**, 1903, **VIII**, p. xxxix.
- Heat arrest of heart**, 1907, **XVIII**, p. 14.
- Heat**, of combustion of compounds of physiological importance, 1911, **XXVIII**, p. 301.
- paralysis in nerve tissues, 1908, **XXII**, p. 456.
- Heat rigor**. See *Rigor caloris*.
- Heliotropism**, 1900, **III**, p. 345.
- Heloderma poison**, 1900, **IV**, p. 209.
- Hemorrhage**, effect of intravenous infusion of sodium bicarbonate, 1904, **X**, p. xxxv.
- effect on lymph, 1904, **X**, p. xxxi.
- effect on metabolism, 1904, **XI**, p. 171.
- effect on vasomotor reflexes, 1908, **XXI**, p. 460.
- infusion, 1900, **III**, p. xxviii.
- internal, influenced by adrenalin, 1909, **XXIII**, p. xxv.
- protein metabolism, 1904, **X**, p. xxviii.
- recovery of blood pressure, 1911, **XXIX**, p. 137.

**Hemorrhage**

venous, and intravenous infusion in dogs, 1900, **IV**, p. 1.

**Heterotransplantation of blood vessels**, 1908, **XXI**, p. xvii.

**Hippuric acid**, 1899, **II**, p. xiv.

production, 1900, **III**, p. 472.

**Hordein**, hydrolysis of, 1907, **XIX**, p. 117.

**Hormones**, action on blood pressure, 1911, **XXVIII**, p. 176.

possibly affect the vasomotor mechanism, 1909, **XXIII**, p. xxiii.

**Hunger**, 1912, **XXIX**, p. 441.

metabolism in, 1912, **XXIX**, p. xiv.

**Hydra**, reaction to constant current, 1901, **V**, p. 301.

**Hydrocephalus**, cerebrospinal fluid, 1903, **X**, p. 111.

**Hydrochloric acid**, formation, 1901, **V**, p. 180.

inverts cane-sugar, 1898, **I**, p. 516.

**Hydroids**, electrical polarity, 1903, **VIII**, p. 294.

**Hydrolysis**, of chicken meat, 1908, **XXII**, p. 433.

of crystallized albumin from hen's egg, 1909, **XXIV**, p. 252.

of fish muscle, 1908, **XXIII**, p. 81.

of glands, 1904, **XII**, p. 276.

of muscle of scallop, 1909, **XXIV**, p. 161.

of ox muscle, 1909, **XXIV**, p. 437.

of vetch legumin, 1908, **XXII**, p. 423.

of viginin, 1908, **XXII**, p. 362.

of vitellin, 1909, **XXIV**, p. 153.

**Hypertonicity**, influence on heart rhythm, 1906, **XV**, p. 358.

**Hypnotic sleep**, 1900, **IV**, pp. 124, xv.

**Hypophysis**, action of extracts of, 1911, **XXVII**, p. xvii.

**Hypotonicity**, influence on heart rhythm, 1906, **XV**, p. 366.

**I**

**Iceland moss**, 1898, **I**, p. 455.

**Ileocæcal valve**, competence, 1902, **VI**, p. 264.

**Immune bodies**, distribution, 1910, **XXV**, p. xix.

**Immunity**, influence by thyroidectomy, 1910, **XXVI**, p. 72.

of *Fundulus* eggs and embryos to electrical stimulation, 1903, **IX**, p. 111.

protein susceptibility and, 1907, **XIX**, p. xix.

relation of spleen to, 1911, **XXVII**, p. xvi; **XXVIII**, p. 257.

relation to lymph, 1911, **XXVII**, p. xi.

**Inanition**, effect on nerve cells, 1898, **I**, p. xiv.

**Indican**, 1904, **XII**, p. 176.

precursors, 1904, **X**, p. xxvii.

**Inductarium**, 1903, **VIII**, p. xxxv.

measurement of "make" shocks, 1909, **XXIV**, p. 269.

**Inductoriums**, comparison of, 1911, **XXVIII**, p. 49.

- Infarction of heart**, 1899, **II**, p. 243.
- Infusion after hemorrhage**, 1900, **III**, p. xxviii.
- Infusoria**, aggregation of, 1900, **III**, p. 291.  
motor reactions, 1900, **III**, p. 229.  
reaction to acids, 1902, **VI**, p. 233.
- Inhibition**, affected by temperature, 1904, **XI**, p. 370.  
cardiac. *See* Heart, inhibition.  
injury of spinal cord, 1900, **IV**, p. 334.  
reaction time, 1900, **III**, p. xxi.  
voluntary contraction, 1901, **V**, p. 281.
- Injections**, subcutaneous and intramuscular, 1912, **XXIX**, p. xxvi.
- Innervation**, contrary, law of, 1911, **XXVII**, p. xxxi.
- Inorganic compounds**, excretion, 1909, **XXV**, pp. 1, 23.
- Intestinal absorption**, 1898, **I**, p. 411.
- Intestinal tract**, non-oxidizable material influences metabolism, 1912, **XXX**, p. 197.  
peristalsis, segmentation, and the myenteric reflex, 1912, **XXX**, p. 114.
- Intestine**, composition of contents, 1900, **III**, p. 324.  
contractions influenced by epinephrin, 1912, **XXIX**, p. 363.  
course of food in, 1902, **VI**, p. 262.  
fistula, 1900, **III**, p. 316.  
motor activities of, 1906, **XVII**, p. 429.  
movements, 1902, **VI**, p. 251; 1903, **VIII**, pp. xxi, xli; 1906, **XV**, p. xxv; 1911, **XXIX**, p. 238.  
putrefaction in, affected by drinking water with meals, 1911, **XXVII**, p. xxv.  
reaction of contents, 1900, **III**, p. 316.  
regeneration of Auerbach's plexus, 1911, **XXVIII**, p. 352.  
regeneration of nerve and muscle, 1910, **XXV**, p. 367.  
removal of segments influences metabolism, 1910, **XXV**, pp. 231, 439.  
resection of, influence on metabolism, 1911, **XXVII**, p. 366.  
shortened in dogs, 1901, **VI**, p. 1.
- Intravenous infusion**, after hemorrhage, 1904, **X**, p. xxxv.
- Intravenous injections**, of magnesium salts, 1906, **XV**, p. 387.
- Inulin**, 1899, **II**, p. xvii.
- Inversion of daily routine**, effect on body-temperatures, 1904, **XI**, p. 145.
- Iodine** in corals, 1900, **IV**, p. 243.  
in thymus and thyroid gland, 1900, **III**, p. 285.  
organic compounds, 1899, **II**, p. xv.
- Ion-protein compounds**, 1902, **VII**, p. 25.
- Ion-proteins**, 1900, **III**, p. 327.
- Ionic effects masked by organic substances**, 1905, **XIV**, p. 133.
- Ionic potential and toxicity**, 1908, **XXI**, p. xxvi.
- Ions**, antitoxic, 1906, **XV**, p. xiii.  
antitoxic effect, 1902, **VII**, p. 405.  
effect on decomposition of hydrogen peroxide, 1904, **X**, p. 225.

**Ions**

- effect on decomposition of hydrogen peroxide and hydrolysis of butyric ether by pancreas extract, 1904, **X**, p. 335.
- effect on growth, 1906, **XV**, p. xix.
- effect on heart muscle, 1904, **XI**, p. 103.
- effect on movements of infusoria, 1900, **III**, p. 291.
- effect on muscular contraction, 1900, **III**, p. 383.
- effect on ventricular muscle, 1900, **IV**, p. 265.
- of sodium and lithium in skeletal muscle, 1905, **XIV**, p. 359.
- physiological action, 1904, **XI**, p. 455; **XII**, p. 374
- relation of electrical charge to physiological action, 1902, **VI**, p. 411.
- relation to toxicity, 1909, **XXV**, p. 190.
- toxic and antitoxic effects, 1903, **VIII**, p. xiv.
- Irritability**, in nerves after removal from the body, 1904, **X**, p. xi.
- muscular, 1901, **V**, p. 362.
- Isotonic solutions**, effect on kidney, 1905, **XIII**, p. xxx.
- Isotony**, 1904, **XII**, p. 99.

**J**

- Joints**, flexion and extension, 1903, **VIII**, p. xxiv.

**K**

- Karyokinesis**, Arbacia eggs, 1900, **IV**, p. 343.
- relation to coagulation, 1899, **III**, p. 80.
- Keith-Flack node**, 1912, **XXX**, p. 421.
- Key**, mercury, 1903, **VIII**, p. xxii.
- Kidney**, decapsulation of, 1904, **XII**, p. 304.
- dog, perfusion, 1906, **XV**, p. 147.
- effect of blood on the blood-vessels of, 1905, **XIII**, p. xxxi.
- effect of isotonic solutions on, 1905, **XIII**, p. xxx.
- excretion of bromides, 1908, **XXII**, p. 32.
- excretion of chlorides with diet poor in salts, 1904, **X**, p. 362.
- filtration in, 1905, **XIII**, pp. 241, 253, 278, 286, 289, 291.
- glomerular fluid by filtration or secretion, 1902, **VIII**, p. 171.
- isolated, artificial circulation, 1900, **IV**, p. xv.
- isolated, pulse pressure related to secretion, 1910, **XXVII**, p. 24.
- perfusion, 1903, **IX**, p. 460; 1905, **XIII**, pp. 241, 253, 278, 286, 289, 291, xxxi; 1907, **XIX**, pp. xviii, 233, 252.
- perfusion, affected by drugs, 1908, **XXI**, p. 37.
- relation to concentration of serum diastase, 1911, **XXIX**, p. 182.
- secretion, 1902, **VI**, pp. xvi, xvii.
- secretion affected by salts, 1904, **X**, p. 378.
- secretion, indigo carmin, etc., 1908, **XXII**, p. 335.
- secretion of right compared with that of left, 1910, **XXVII**, p. 119.



**Kidney**

secretion, physical factors in, 1904, **X**, p. xxv.

secretion related to blood-pressure and pulse-pressure, 1904, **X**, p. xvi.

**Kidney tubules**, models of, 1906, **XV**, p. xxxii.

**Kidney vascularity**, influenced by the splanchnic nerve, 1909, **XXIII**, p. xxxvii.

**Knee jerk**, 1910, **XXVI**, p. 474.

**Kymograph**, 1903, **VIII**, p. xxxvii; 1904, **X**, p. xxxix; 1908, **XXI**, p. xxvii.

**Kynurenic acid**, excretion, 1898, **I**, p. xv; **II**, p. 1; 1901, **V**, pp. 191, 427, ix.

**L**

**Laboratory**, apparatus, 1903, **VIII**, pp. xxii, xxxv.

table for students, 1901, **V**, p. xvii.

**Lactation**, affected by phlorhizin diabetes, 1900, **IV**, p. xi.

**Lactic acid**, in metabolism, 1906, **XVI**, p. 129.

**Lactose formation**, 1900, **IV**, p. 239.

**Lanthanum**, physiological action, 1906, **XVI**, p. 314.

**Larvæ from unfertilized eggs**, 1899, **III**, p. 135; 1900, **III**, p. 434.

**Larynx**, action in voice-production, 1898, **I**, p. vi.

**Lateral line in fishes**, function, 1898, **I**, p. 128.

**Lecithin**, effect on growth, 1903, **X**, p. 57.

effect on growth of nervous system, 1903, **IX**, p. xviii.

**Leucin**, relation to sugar formation, 1904, **X**, p. 229.

**Leucomains**, of cod liver oil, 1908, **XXI**, p. xxii.

**Leukæmia**, metabolism, 1902, **VI**, p. xxii; 1903, **IX**, p. 417.

**Lichenin**, 1898, **I**, p. 456.

**Life**, duration affected by potassium cyanide, 1902, **VIII**, p. 175.

prolonged in unfertilized eggs of sea-urchins by potassium cyanide, 1902, **VI**, 305.

**Ligament extractive**, 1902, **VII**, p. 93.

**Light**, action on Cypridopsis, 1900, **III**, p. 345.

action on Entomostafa, 1899, **III**, p. 157.

action on protozoa, 1899, **III**, p. 9.

action on reactions of Cyclops, 1907, **XVIII**, p. 47.

directive influence on earthworm, 1901, **V**, p. 151.

of firefly, 1910, **XXVII**, p. 122.

reactions of lobsters to, 1908, **XXI**, p. 180.

response of Cypris, 1900, **IV**, p. 405.

response of Daphnia, 1900, **IV**, p. 405.

response of Entomostraca, 1900, **IV**, p. 405.

response of frog, 1903, **IX**, p. 466.

response of Planaria, 1900, **IV**, p. 373.

theory of response, 1901, **IV**, p. 460.

**Limulus heart**, 1906, **XV**, pp. 99, 207, 357, 371, xi.

**Lipase**, 1901, **V**, p. xii.

**Lipase**

- action of, 1906, **XV**, p. xxvii.
- fat metabolism, 1902, **VI**, p. 331.
- in embryonic tissues, 1908, **XXI**, p. 95.

**Lipolysis**, solution tension and toxicity in, 1907, **XIX**, p. 258.

**Liquids**, animal, molecular concentration and electrical conductivity, 1899, **II**, p. xxi.

**Lithium**, excretion, 1902, **VI**, p. xx.

**Liver**, absorption from, 1905, **XIV**, p. 252.

- ammonia-destroying power depressed by thyroidectomy, 1910, **XXV**, p. 403.
- effect of Eck's fistula on bile formation, 1912, **XXIX**, p. xxvii.
- forms fibrinogen, 1912, **XXIX**, p. xix.
- relation to fibrinogen content of blood, 1912, **XXX**, p. 161.
- sugar production affected by adrenal glands, 1912, **XXIX**, p. 419.

**Lobeline**, physiological action, 1904, **XI**, p. 79.

**Lobster**, rheotaxis in, 1906, **XVII**, p. 326.

**Lobsters**, blinded, reaction to light, 1908, **XXI**, p. 180.

**Locomotor ataxia**, salt solution, 1904, **XI**, p. 1.

**Lung**, redistention after collapse, 1898, **I**, p. ix.

- relation of loss of substance to metabolism, 1909, **XXIII**, p. 412.

**Lungs**, blood pressure in, 1912, **XXX**, p. 233.

**Lymph**, action of tissue metabolites on the blood pressure, 1911, **XXVIII**, p. 176

- affected by hemorrhage, 1904, **X**, p. xxxi.
- agglutinins, 1908, **XXI**, p. 221.
- amido acids, 1906, **XVII**, p. 273.
- bacterio-agglutinating action, 1908, **XXI**, p. xxv.
- chlorides, 1908, **XXII**, p. 91.
- composition from neck lymphatics of horse, 1908, **XXI**, p. xxv.
- conductivity related to formation of, 1910, **XXV**, p. 345.
- diastases, relation to pancreas, 1911, **XXIX**, p. 165.
- flow, influenced by proteins, 1899, **II**, p. 162.
- flow, post mortem, 1902, **VII**, p. 380.
- flow, secretin, 1903, **IX**, p. xv.
- formation, 1900, **III**, p. xix; 1902, **VII**, p. 284; 1908, **XXI**, p. xxvi.
- formation in salivary glands, 1908, **XXI**, p. xxvi.
- formation, related to hemolytic power of serum and lymph, 1908, **XXI**, p. 236.
- fractional coagulation, 1910, **XXV**, p. 354.
- hearts, effect of ions on contraction, 1901, **V**, p. 87.
- hearts, innervation, 1901, **V**, p. 106.
- hypophyseal secretion in cerebrospinal fluid, 1911, **XXIX**, p. 64.
- immune bodies in, 1911, **XXVII**, p. xi.
- leucocytes in, 1909, **XXV**, p. 173; **XXVI**, p. 68.
- lymphagogue action, 1908, **XXII**, p. 104.

- Lymphagogues**, 1902, VII, p. 380.  
influence on bacterio-agglutinins, 1908, XXI, p. 221.  
**Lymphatic glands**, chemistry of, 1900, IV, p. xii.

## M

- Magnesium and calcium excretion**, 1900, XXIII, p. xviii.  
**Magnesium**, antagonism to barium, 1910, XXV, p. xvii.  
excretion, 1909, XXV, p. 1.  
inhibitory effect counteracted by calcium, 1908, XXI, pp. 400, xi.  
inhibits eserine, 1909, XXIII, p. 215.  
**Magnesium salts**, action of, 1908, XXIII, p. 141.  
anæsthetic properties, 1910, XXVI, p. 329.  
physiological action, 1906, XVII, p. 313.  
physiological and pharmacological action, 1906, XVI, p. 233.  
physiological and pharmacological studies, 1906, XV, p. 387.  
produce anæsthesia, 1905, XIV, p. 366.  
**Magnesium sulphate**, action on the heart, 1907, XX, p. 323.  
dangerous in blood pressure experiments, 1901, V, p. iii.  
**Magnetic field**, influence on visual sensations, 1911, XXIX, p. 124.  
**Make and break key**, 1910, XXVI, p. 181.  
**Malignant growths**, chemistry of, 1904, XI, p. 139.  
**Manometer**, 1905, XIII, p. xxxvii.  
for pulse pressure, 1912, XXX, p. 242.  
**Meat**, preparation for metabolism experiments, 1901, V, p. 235.  
**Mechanical agitation**, parthenogenesis, 1901, VI, p. 142.  
**Mechanical shock**, effect on protoplasm, 1903, VIII, p. 300.  
**Medusa**, nervous system, 1902, VII, p. 181.  
reactions, 1903, IX, p. 279.  
**Melanins**, 1899, II, pp. 291, 380, vi.  
**Menstruation**, metabolism of nitrogen in, 1910, XXVII, p. 177.  
**Mental activity**, measurement through muscular activity, 1898, I, p. 283.  
**Mental life**, physiological basis, 1899, II, p. xx.  
**Mercurial poisoning** of men in a respiration chamber, 1909, XXIV, p. 187.  
**Mercury**, solution in body, 1899, II, p. vi.  
**Metabolism**, affected by adrenalin, 1906, XVII, p. 42.  
affected by amino-acids, glycylglycine and glycylglycine anhydride, 1909, XXV, p. 214.  
affected by breathing oxygen-rich gas mixtures, 1911, XXVIII, p. 1.  
affected by hemorrhage, 1904, XI, p. 171.  
affected by parathyroidectomy, 1911, XXVIII, pp. 103, 133.  
affected by phosphorus, 1906, XVI, p. 268; 1909, XXIII, p. 246.  
after excision of stomach, 1910, XXVI, p. 369.  
after pancreatectomy, 1912, XXX, p. 341.

**Metabolism**

- after removal of segments of the intestine, 1909, **XXV**, p. 231; 1910, **XXV**, p. 439.
- after severe muscular exercise, 1911, **XXVIII**, p. 291.
- after splenectomy, 1900, **III**, p. iii; 1907, **XVIII**, p. 201.
- amino-acids, 1912, **XXIX**, p. xxxviii.
- bone ash in experiments, 1907, **XX**, p. 343.
- cage, 1905, **XIV**, p. 403.
- carbohydrate, 1905, **XIV**, p. 12.
- carbohydrate, affected by removal of thyroids, 1909, **XXV**, p. 66.
- dextrose from pancreatic digest, 1903, **IX**, pp. 380, xviii.
- diet and cage for dogs, 1904, **X**, p. xxii.
- effect of Eck's fistula on bile formation, 1912, **XXIX**, p. xxvii.
- fat, 1902, **VI**, p. 331.
- fat, in salmon, 1912, **XXIX**, p. xxxix.
- glycogen, 1903, **IX**, p. 138; 1911, **XXVII**, p. xxii.
- glycogen, influenced by cold baths, 1911, **XXVII**, p. 427.
- glycosuria, affected by adrenalin, 1912, **XXIX**, p. xxvi.
- heat of combustion of physiological compounds, 1911, **XXVIII**, p. 301.
- hourly, 1912, **XXIX**, p. xxxiii.
- in a case of biliary fistula, 1906, **XVII**, p. 362.
- in artificial fever, 1912, **XXIX**, p. xviii.
- in cystinuria, 1905, **XIV**, p. 54.
- in development, 1909, **XXIII**, p. xxxii.
- in dogs with shortened intestine, 1901, **VI**, p. 1.
- in ether anaesthesia, 1912, **XXIX**, p. xvii.
- in fasting animals, 1898, **I**, p. 395.
- in fasting dog, 1912, **XXIX**, p. xiv.
- in fatty degeneration, 1898, **I**, p. v.
- in fever, 1909, **XXIV**, p. 203.
- in man with greatly diminished lung area, 1909, **XXIII**, p. 412.
- in osteomalacia, 1905, **XIV**, p. 389.<sup>4</sup>
- in parturient women, 1910, **XXV**, p. xxvi.
- in phlorhizin diabetes, 1898, **I**, p. 395.
- in phosphorus poisoning, 1907, **XIX**, p. 461.
- in pregnancy, 1910, **XXVI**, p. 134.
- in salmon before spawning, 1903, **VIII**, p. xlii.
- influenced by alcohol, 1910, **XXV**, p. xi.
- influenced by nervous excitement, 1902, **VI**, p. 398.
- influenced by non-oxidizable material in the intestinal tract, 1912, **XXX**, p. 197.
- influenced by salicylic acid, 1909, **XXV**, p. 34.
- influenced by tellurium, 1901, **V**, p. 104.
- lactic acid, 1906, **XVI**, p. 129.
- leukæmia, 1902, **VI**, p. xxii.

**Metabolism**

- nitrogen, 1900, **III**, p. 261; 1902, **VI**, p. 398.
- nitrogen balance during pregnancy and menstruation, 1910, **XXVII**, p. 177.
- nuclein, 1903, **IX**, p. 417; 1911, **XXVII**, p. 438.
- of nervous system, 1906, **XV**, p. xv.
- of phosphates, 1902, **VII**, p. 135.
- of purin bodies, 1904, **XII**, p. 85.
- of pyrimidine derivatives, 1910, **XXVI**, p. 77.
- of sugar, from amino-acids, 1910, **XXV**, p. xix.
- of sugar, related to pancreas, 1910, **XXV**, p. xxi.
- on feeding pituitary gland, 1912, **XXX**, p. 352.
- oxygen consumption, 1910, **XXVI**, p. 15.
- products act on blood pressure, 1911, **XXVIII**, p. 176.
- protein, 1900, **IV**, p. 25; 1903, **IX**, p. 386; **X**, p. 115; 1905, **XIII**, p. 117;  
**XIV**, pp. 54, 120; 1907, **XX**, p. 234; 1908, **XXI**, pp. xiii, xxi; 1911, **XXIX**,  
p. 215; 1912, **XXIX**, p. xii.
- protein, affected by alcohol, 1910, **XXVII**, p. 1.
- protein, affected by hemorrhage, 1904, **X**, p. xxviii.
- protein, affected by internal hemorrhage, 1908, **XXII**, p. 207.
- protein, after splenectomy, 1904, **X**, p. xxix.
- protein, autolysis, 1904, **XI**, p. 351.
- protein, during gestation, 1909, **XXIII**, p. xxxi.
- protein, in cystinuria, 1907, **XIX**, p. xiii.
- protein, in dog, 1907, **XIX**, p. xiv.
- protein, in fasting, 1908, **XXI**, p. xxv.
- protein, in phlorhizin diabetes, 1911, **XXVIII**, p. 71.
- protein, in pregnancy, 1911, **XXVIII**, p. 422.
- protein, in starvation, 1908, **XXI**, p. xxvi.
- protein, influence of borax and boric acid on, 1898, **I**, p. 1.
- protein, influence of carbohydrates on, 1908, **XXI**, p. xxi.
- protein, relation to muscular activity, 1908, **XXII**, p. 445.
- protein, specific characters, 1903, **VIII**, p. xxiii.
- protein, time relations, 1903, **X**, p. 115.
- purin, 1907, **XX**, p. 97; 1911, **XXVII**, p. xv.
- purin, in embryo, 1907, **XIX**, p. xvii.
- relation of adrenal glands to sugar production by the liver, 1912, **XXIX**,  
p. 419.
- relation of liver to glycosuria, 1911, **XXVIII**, p. 403.
- relation to sitting and lying, 1911, **XXVII**, p. 406.
- repair processes in, 1911, **XXIX**, p. 215.
- respiratory, relation to heart action, 1911, **XXVII**, p. xviii.
- rôle of creatinin, 1911, **XXIX**, p. 210.
- rôle of wheat bran, 1909, **XXIV**, p. 86.
- sparing action of gelatin, 1907, **XVIII**, p. xii.
- with carbohydrate diet, 1912, **XXX**, p. 217.

**Metabolism**

with resected intestine, 1911, **XXVII**, p. 366.

**Metals**, pharmacological action at a distance, 1906, **XV**, p. xxxi.

surface action, 1902, **VI**, p. xxvi.

**Methylene blue and methylene azure**, 1905, **XIII**, p. 358.

**Microtome**, 1899, **II**, p. xix.

**Migraine**, physiological study of, 1907, **XIX**, p. 14.

**Milk**, coagulation, 1903, **VIII**, p. xxxv.

film, 1902, **VII**, p. 325.

influence of rennin on digestion of protein, 1903, **X**, p. 37.

liberation of sulphide on heating, 1902, **VI**, p. 450.

nutrition influenced by alkali content, 1908, **XXII**, p. 284.

skimmed, food value, 1902, **VIII**, p. 197.

**Mitosis**, 1905, **XV**, p. 46.

**Moist chamber**, 1903, **VIII**, p. xxii.

**Molluscs**, chemical physiology of, 1900, **XXIV**, p. 170.

physiology of, 1905, **XIII**, p. 17; **XIV**, p. 313; 1906, **XVII**, p. 167.

rate of nerve impulse, 1903, **VIII**, p. 251.

**Monstrosities**, physical chemistry of their production, 1912, **XXIX**, p. 289.

**Morphine poisoning**, relation to thyroidectomy, 1910, **XXVI**, p. 354.

toxicity, 1906, **XV**, p. xxiv.

**Motor reactions**, unicellular organisms, 1900, **III**, p. 229.

**Mouse tumors**, relation to potassium and calcium content, 1905, **XIV**, p. 173.

**Movements**, compensatory, 1899, **III**, p. 86.

**Mucin**, 1900, **III**, pp. vi, vii, viii, xxix.

in ligament, 1901, **V**, p. xi.

in muscle, 1901, **V**, p. x.

physiological studies, 1900, **IV**, p. 90.

**Mucoid**, 1902, **VII**, p. 93; 1903, **VIII**, p. xiii.

**Mucoids**, combination with protein, 1904, **XI**, p. 404.

reactions, 1902, **VI**, p. xxviii.

**Mucous membrane**, nasal, composition, 1906, **XV**, p. xxiii.

**Muscle**, absorption in, 1905, **XIII**, p. xxxii.

action of alcohol upon, 1902, **VIII**, p. 61.

action of alcohol and water on, 1912, **XXX**, p. 389.

action of curare and physostigmine upon, 1908, **XXIII**, p. 28.

action of electrolytes on, 1910, **XXV**, p. xxii.

active relaxation, 1898, **I**, p. 343.

affected by chlorides, 1905, **XIV**, p. 73.

affected by distilled water and various solutions, 1910, **XXVI**, p. 191.

affected by ions, 1905, **XIV**, p. 359.

affected by phlorhizin, 1900, **IV**, p. ix.

affected by potassium and calcium ions, 1902, **VII**, p. 199.

annelid, 1902, **VII**, p. 155.

behavior after compression, 1908, **XXII**, p. 48.

**Muscle**

- coagulation in, 1909, **XXIV**, p. 1.
- compressibility, 1908, **XXI**, p. 248.
- conduction and contraction in, 1906, **XVII**, p. 218.
- conductivity, affected by pressure, 1911, **XXVII**, p. 308.
- connective tissue, 1900, **IV**, p. 260.
- contact irritability, 1901, **V**, p. 362; 1902, **VII**, p. 320.
- contractility affected by salts, 1906, **XVI**, p. 191.
- contractility restored by various electrolytes, 1909, **XXIV**, p. 459.
- contraction, duration of phases, 1908, **XXII**, p. 315.
- contraction, effect on circulation, 1903, **IX**, p. 161.
- contraction, inhibition time, 1901, **V**, p. 281.
- contraction, localized, 1911, **XXVII**, p. xi.
- contraction, mechanical effects, 1907, **XX**, p. 1.
- contraction, mechanical theory, 1905, **XIV**, p. 138.
- contraction, rapidity, 1906, **XV**, p. 136.
- contraction, reinforcement, 1898, **I**, p. 336.
- contraction, theory of, 1908, **XXII**, p. 477.
- electrical resistance, 1901, **V**, p. 267.
- embryonic, composition of, 1908, **XXI**, p. 99.
- expressed juice of, affects heart, 1907, **XIX**, p. 426.
- fatigue, 1899, **II**, p. xi; 1900, **IV**, p. 348; 1901, **V**, p. 240; 1902, **VII**, p. 76;  
1905, **XIII**, p. xxviii; 1907, **XX**, p. 170; 1909, **XXIII**, p. xxxvii.
- fatigue, chemical phenomena, 1906, **XV**, p. xxxi.
- fatigue, relation to splanchnic stimulation, 1912, **XXIX**, p. xxiv.
- force of voluntary contractions, 1900, **IV**, p. 348.
- heart. *See* Heart muscle.
- heat coagulation in, 1909, **XXIII**, p. xv.
- heat shortening, 1909, **XXIV**, p. 178.
- human, fatigue in voluntary contraction, 1903, **VIII**, p. 355.
- human, "gap" in contraction, 1903, **VIII**, p. 435.
- human, stimulation with induced currents, 1903, **VIII**, p. 355.
- hydrolysis of, in fish, 1908, **XXIII**, p. 81.
- irritability affected by osmotic pressure, 1906, **XVII**, p. 8.
- irritability affected by sodium and calcium, 1911, **XXIX**, p. 1.
- mucin, 1901, **V**, p. x.
- nerve-endings, 1900, **III**, p. 339.
- neurocytological reaction in contraction, 1909, **XXV**, p. 151.
- non-striated, influence of carbon dioxide and oxygen, 1901, **V**, p. xvi.
- of fowl, action of barium chloride upon, 1908, **XXIII**, p. 46.
- plain, tone affected by salts, 1903, **VIII**, p. 269.
- potassium contraction influenced by sodium chloride and calcium chloride,  
1909, **XXIII**, p. 374.
- regeneration in intestine, 1910, **XXV**, p. 367.
- respiration, 1906, **XV**, p. xxviii.



**Muscle**

- rhythmical contraction in crayfish, 1909, **XXIII**, p. xviii.
- rhythmical contraction in *Gonionemus*, 1909, **XXIII**, p. xxxvii.
- second maximum in response to a series of stimuli, 1903, **VIII**, p. xxiv.
- smooth, cat's bladder, 1900, **IV**, p. 185.
- smooth, composition of ash, 1912, **XXIV**, p. xv.
- smooth, contraction, 1899, **III**, p. 26.
- smooth, decrease in volume during contraction, 1912, **XXIX**, p. xiv.
- smooth, of mammals, 1900, **III**, p. xxv.
- smooth, osmotic properties, 1911, **XXVII**, p. xvii.
- smooth, relation of tonus to conduction, 1906, **XV**, p. xxix.
- smooth, structure of, 1912, **XXIX**, p. 317.
- structure, 1908, **XXII**, p. 477.
- striated, permeability to ions during contraction, 1912, **XXIX**, p. 302.
- surviving mammalian, 1900, **III**, pp. xi, xxix.
- tetanus, 1905, **XV**, p. 10.
- tonus, 1899, **II**, p. xxi; 1903, **VIII**, pp. 260, xxvi; 1904, **X**, pp. 211, 373, xlv;  
**XII**, p. 75; 1910, **XXVI**, p. 361.
- tonus, in colon, 1911, **XXIX**, p. 238.
- Treppe, 1907, **XVIII**, pp. 267, xviii.
- twitching, 1905, **XIII**, p. 186.
- ventricular, effect of ions, 1900, **IV**, p. 265.
- water rigor, 1906, **XVII**, p. 218.
- Muscle lever**, heavy, 1903, **VIII**, p. xl.
- Muscle warmer**, 1904, **X**, p. xliii.
- Muscles**, action upon joints, 1903, **VIII**, p. xxiv.  
     classification as flexors and extensors, 1903, **VIII**, p. xxiv.  
     frog's hind leg, method of studying action, 1906, **XV**, p. xxxii.
- Muscular activity**, affects oxygen tension, 1912, **XXX**, p. 18.  
     and protein metabolism, 1908, **XXII**, p. 445.
- Muscular energy**, source, 1903, **VIII**, p. xlii.
- Muscular exercise**, effect on blood, 1904, **X**, p. 384.
- Muscular movement in larvæ**, 1902, **VII**, p. 25.
- Muscular power**, affected by alcohol, 1898, **I**, p. xv.
- Muscular soreness**, 1902, **VII**, p. 76.
- Mushrooms**, composition and nutritive value, 1898, **I**, p. 225.
- Myenteric reflex**, 1909, **XXIII**, p. xxvi.

**N**

- Narcotics**, pharmacological study, 1905, **XV**, p. 85.
- Neodymium**, physiological action, 1906, **XVI**, p. 314.
- Nephrectomy**, influence upon absorption, 1903, **VIII**, p. xlii.
- Nerve**, action of alkaloids of *Papaveraceæ* upon, 1909, **XXIII**, p. 408.  
     action of electrolytes on, 1910, **XXV**, p. xxii.

**Nerve**

- cells, affected by inanition, 1898, **I**, p. xiv.
- cells, amoeboid movements, 1899, **II**, p. xiii.
- centres, fatigue, 1901, **V**, p. iv.
- conduction, 1905, **XIII**, p. 351; 1906, **XV**, p. 136.
- conduction, relation of velocity to temperature, 1908, **XXII**, p. 179.
- conduction, temperature coefficient of, 1908, **XXI**, p. xxvi.
- conductivity, affected by pressure, 1911, **XXVII**, p. 308.
- conductivity, affected by stretching, 1911, **XXVII**, p. 323.
- conductivity, affected by temperature, 1900, **IV**, p. 301.
- control of sugar in blood, 1907, **XIX**, p. 388.
- crossing, restoration of movement after, 1898, **I**, p. 239.
- degeneration, 1906, **XV**, p. 277.
- degeneration and regeneration, 1900, **III**, p. 339.
- effect of ligation on staining, 1904, **X**, p. xxiv.
- embryonic, composition of, 1908, **XXI**, p. 99.
- endings, 1899, **II**, p. xvi.
- endings, action of curare and physostigmine on, 1908, **XXIII**, p. 28.
- endings, in muscle, 1900, **III**, p. 339.
- fibres, affected by magnesium salts, 1906, **XVI**, p. 233.
- glycogenolytic fibres in splanchnic, 1908, **XXII**, pp. 373, 397.
- heat paralysis, 1908, **XXII**, p. 456.
- impulse, nature of its conduction, 1908, **XXIII**, p. 115.
- impulse, propagation of, 1905, **XIV**, p. 112.
- impulse, rate, 1903, **VIII**, p. 251; 1904, **X**, p. 401.
- impulse, relation to external stimulus, 1898, **I**, p. 104.
- irritability after removal from body, 1904, **X**, p. xi.
- local effects of stimulation, 1899, **II**, p. 411.
- mechanism of equilibrium in starfish, 1910, **XXVII**, p. 207.
- muscle, apparatus for recording contractions in unipolar excitation of nerve, 1900, **IV**, p. xii.
- regeneration in intestine, 1910, **XXV**, p. 367.
- sensory, transmission of motor impulses, 1899, **III**, p. 115.
- seventh cranial, course of, 1909, **XXIII**, p. xxxvii.
- stimulation and irritability, 1902, **VI**, p. xxvi.
- theory of electric properties in, 1906, **XVII**, p. 297.
- tissues, apparatus for extraction of, 1908, **XXI**, p. xxvi.
- union, 1905, **XIII**, p. 372.
- vagus. *See* Vagus nerve.

**Nerves, cardiac, 1906, XV, pp. 127, 280.**

- integumentary, of fishes, 1909, **XXV**, p. 77.
- of stomach, 1910, **XXV**, p. 334.
- of veins, 1898, **I**, p. 477.
- phrenic, afferent fibres in, 1911, **XXVIII**, p. 57.
- secretory, suprarenal, 1899, **II**, p. 203.

**Nerves**

to pupil, influenced by calcium, 1909, **XXV**, p. 43.

**Nervous system**, central, decrease in proportion of water with growth, 1900, **IV**, p. v.

growth influenced by lecithin, 1903, **IX**, p. xviii.

in experimentally stunted albino rat, 1908, **XXI**, p. xxvi.

metabolism, 1906, **XV**, p. xv.

model, 1900, **III**, p. xxxi.

of gonionemus, 1902, **VI**, p. 434.

resuscitation, 1908, **XXI**, p. xxvi.

starvation, 1906, **XV**, p. xxxi.

weight, 1902, **VI**, p. xxvi.

**Neurin**, in intestine, 1899, **II**, p. viii.

**Neurone**, functional significance of size and shape, 1900, **IV**, p. vi.

**Neutrality regulation**, 1908, **XXI**, pp. 420, 427.

**Neutrality**, relation to strength of acids, 1908, **XXI**, p. 173.

**Nicotine tolerance**, 1904, **XI**, p. 17.

**Nitrogen**, excretion, 1909, **XXIII**, p. 324; 1909, **XXV**, p. 214.

excretion following small increase in protein ingestion, 1904, **X**, p. 269.

excretion in white rat, 1905, **XIV**, p. 120.

low caloric values affect metabolism, 1908, **XXI**, p. xiii.

sulphates and phosphates, elimination after protein food, 1900, **IV**, p. 25.

**NORMAN, W. W.** Obituary, 1900, **III**, p. 284.

**Nucleic acid**, 1900, **III**, p. xxxii; 1903, **VIII**, p. xii; **IX**, p. xvii; 1905, **XIII**, p. 464.

action and fate in body, 1903, **VIII**, p. 377.

composition, 1901, **V**, p. viii.

hydrolysis of, 1904, **XII**, p. 213.

of wheat embryo, specific rotation, 1903, **IX**, p. 69.

pyrimidine derivatives in, 1908, **XXI**, p. 157.

suprarenal gland, 1902, **VI**, p. xxvi.

**Nuclein** metabolism in dog, 1911, **XXVII**, p. 438.

metabolism in leukaemia, 1903, **IX**, p. 417.

synthesis, 1909, **XXV**, p. 120.

**Nucleo-histon** in tumors, 1905, **XIII**, p. 341.

**Nucleoproteid**, of suprarenal gland, 1902, **VII**, p. 423.

polarization, 1903, **IX**, p. 69.

**Nucleoproteids**, 1903, **VIII**, pp. 447, xli.

antibodies produced by injection, 1906, **XV**, p. xxxi.

of brain, 1904, **X**, p. xliv.

optical properties, 1903, **VIII**, pp. 447, xli.

**Nutrition**, the rôle of phosphorus in, 1909, **XXIII**, p. 246.

**Nutritive requirements of body**, 1906, **XVI**, p. 409.

## O

- Odors**, confusion with taste, 1899, **II**, p. xx.
- Oesophagus**, movements of, 1901, **V**, p. xvii.  
movements of food in, 1898, **I**, p. 435.  
peristalsis, 1899, **II**, p. 266.  
peristalsis affected by section of one vagus, 1907, **XVIII**, p. xiv.  
peristalsis after vagotomy, 1907, **XIX**, p. 436.  
rhythmic activity, 1901, **V**, p. 338.
- Oil**, fate when injected subcutaneously, 1905, **XIV**, p. 193.
- Olfactory sense of fishes**, 1911, **XXVII**, p. xix.
- Oncometer**, 1899, **II**, p. xx.
- Optical isomers**, pharmacological action, 1903, **IX**, p. xiv.
- Organ extracts**, catalytic decomposition of, 1905, **XIII**, p. xxxvii.
- Osmosis of colloidal solutions**, 1902, **VII**, p. 261.
- Osmotic pressure and heart activity**, 1906, **XV**, pp. 357, xxxi.
- Osmotic pressure of colloidal solutions**, 1907, **XX**, p. 127.
- Osseomucoid**, chemistry, 1901, **V**, p. 387.  
distribution, 1903, **X**, p. 146.
- Osteomalacia**, 1906, **XVII**, p. 32.  
metabolism in, 1905, **XIV**, p. 389; 1906, **XVII**, p. 211.
- Outflow recording apparatus**, 1908, **XXIII**, p. 23.
- Ova**, affected by poisons, 1906, **XVI**, p. 1.  
changes in anisotonic solutions and in saponin, 1904, **XII**, p. 99.  
development, 1901, **VI**, p. 53.
- Ovaries**, removal and transplantation, 1907, **XIX**, p. xvi.
- Oviduct**, glands in fowl, 1902, **VI**, p. xviii.  
resection of, 1908, **XXII**, p. 357.
- Oxidation**, cellular, 1902, **VII**, p. 412; 1908, **XXI**, p. xxv.  
of sugar, 1906, **XV**, p. xxxi.  
processes, 1905, **XIII**, p. 358.  
velocity, 1908, **XXI**, p. 23.
- Oxidizing power of cupric acetate solutions**, 1907, **XIX**, p. 199.
- Oxidizing power of different tissues**, 1907, **XIX**, p. 175.
- Oxygen**, absorption and consumption in heart tissue, 1906, **XV**, p. 303.  
consumption, 1910, **XXVI**, p. 15.  
lack of, 1905, **XV**, p. 30; 1906, **XV**, p. xxxi.  
lack of, affects development, 1902, **VII**, p. 56.  
lack of, causes changes in protozoa, 1898, **I**, p. 210.  
lack of, physiological effects, 1899, **II**, p. 220.  
lack of, resistance to, 1908, **XXI**, p. 310.  
lack of, resistance to, affected by carbohydrates, 1907, **XVIII**, p. 164.
- Oxyhæmoglobin**, crystallization, 1903, **IX**, pp. 97, xviii.  
inhibition of crystallization, 1903, **VIII**, p. xlii.  
quick crystallization, 1903, **VIII**, p. xlii.

**P**

- Pain**, a cause of shock, 1910, **XXV**, p. 385.
- Pain sensations**, 1900, **III**, p. 271.
- Palmesthetic**, difference sensibility for rate, 1911, **XXIX**, p. 108.
- Pancreas**, activity affected by drinking water with meals, 1911, **XXVII**, p. xxvi.  
 extracts of, influence on experimental diabetes, 1912, **XXIX**, p. 306.  
 function in sugar metabolism, 1910, **XXV**, p. xxi.  
 internal secretion of, 1911, **XXVIII**, pp. 391, 396.  
 relation to blood diastases, 1910, **XXVI**, p. 347.  
 relation to metabolism, 1905, **XIV**, p. 12.  
 relation to serum and lymph diastases, 1911, **XXIX**, p. 165.  
 relation to spleen, 1902, **VI**, p. xiv; **VII**, p. 387.
- Pancreatectomy**, glycolysis, 1912, **XXX**, p. 341.
- Pancreatic fistula**, 1890, **II**, p. 484.  
 juice, diastatic action, 1899, **II**, p. 483.  
 proteolysis, influenced by bile and bile salts, 1898, **I**, p. 307.
- Papain**, proteolysis, 1898, **I**, p. 255; 1901, **V**, p. xiii.
- Papaveraceæ**, action of their alkaloids on frog's heart, 1909, **XXIII**, p. 389.  
 action of their alkaloids on the motor nerve endings, 1909, **XXIII**, p. 408.
- Para-lactic acid**, 1905, **XIII**, p. xvi.
- Paramecium**, adjustment to salt content of water, 1908, **XXIII**, p. 48.  
 affected by centrifugal force, 1908, **XXI**, p. xiv.  
 affected by temperature, lack of oxygen, and poisons, 1899, **II**, p. 220.  
 geotropism, 1903, **IX**, p. 238; 1905, **XIV**, p. 421.  
 motor reactions, 1899, **II**, pp. 311, 355.  
 reactions of, 1904, **XII**, p. 220.
- Paranuclein**, phosphorus content, 1900, **IV**, p. 170.
- Paranucleo compounds**, chemistry of, 1900, **IV**, p. xi.
- Paranucleoprotagon**, 1907, **XX**, p. 378.
- Parathyroid extract**, inhibits tetany, 1907, **XIX**, p. xiii.
- Parathyroid glands**, compensatory function, 1911, **XXVII**, p. xxvii.  
 glands, relation to thyroid, 1902, **VI**, p. xxvii.
- Parathyroid tetany**, 1911, **XXVIII**, p. 133.  
 affected by nervous impulses, 1912, **XXIX**, p. 311.  
 digestive tract in, 1912, **XXX**, p. 309.  
 effects of blood transfusion, 1912, **XXX**, p. 47.  
 intestinal movements in, studied with advantage by X-ray, 1912, **XXIX**, p. xxviii.
- Parathyroidectomy**, effect on metabolism, 1911, **XXVIII**, pp. 103, 133.
- Parenteral introduction of saccharose**, 1910, **XXVI**, p. 396.
- Parthenogenesis**, affected by temperature, in *Asterias*, 1907, **XVIII**, p. xvi.  
 artificial, 1900, **III**, p. xxxi; **IV**, p. 178; 1901, **IV**, p. 423; 1903, **IX**, pp. 100, 308.  
 artificial in vertebrates, 1912, **XXIX**, p. 298.

**Parthenogenesis**

- in annelids, 1902, **VII**, p. 301.
- produced by concentrated sea-water, 1901, **VI**, p. 177.
- produced by lowering the temperature, 1902, **VI**, p. 296.
- produced by mechanical agitation, 1901, **VI**, p. 142.

**Pawlow operation for accessory stomach**, improved, 1906, **XVII**, p. 321.**Pepsin**, action influenced by acids, 1903, **VIII**, p. xxxiv.

- mechanical destruction, 1909, **XXIII**, p. xxix.
- quantitative estimation, 1905, **XIII**, p. 448.

**Peptone**, 1906, **XV**, p. xii; 1908, **XXI**, p. xxv.

- excretion, 1898, **I**, p. 274.
- physiological action, 1898, **I**, p. 266.

**Perfusion experiments**, on excised kidneys, 1907, **XIX**, pp. 233, 252.**Perfusion methods**, 1905, **XIII**, pp. 241, 253, 278, 286, 289, 291.**Perfusion of heart** and other organs, 1912, **XXIX**, p. xxxi.**Peristalsis**, 1909, **XXIII**, p. xxvii.

- affected by magnesium salts, 1906, **XVII**, p. 313.
- affected by saline purgatives, 1906, **XVII**, p. 15.
- gastric, 1907, **XVIII**, pp. 347, xi; 1911, **XXVII**, p. xii; **XXIX**, p. 250.
- in ureter, 1906, **XVII**, p. 392.
- intestine, 1902, **VI**, p. 260.
- related to tonus, 1912, **XXIX**, p. 238.
- segmentation, and the myenteric reflex, 1912, **XXX**, p. 114.

**Peristaltic rush**, 1907, **XX**, p. 259.**Peritoneum**, absorption from, 1899, **II**, pp. 342, xvi; 1910, **XXV**, p. xv.**Permeability**, affected by anæsthetics, 1912, **XXIX**, p. xi.

- affected by calcium salts, 1911, **XXVII**, p. 289.
- of fundulus egg, 1905, **XIV**, p. 354.
- of limiting membranes, relation to stimulation and conduction, 1911, **XXVIII**, p. 197.
- of muscle, 1912, **XXIX**, p. 302.
- relation to CO<sub>2</sub>, 1909, **XXIV**, p. 14.
- relation to electrolytes, 1910, **XXVII**, p. 240.

**Pharmacological action** at a distance, 1907, **XVIII**, p. 39.

- theory of, 1904, **XI**, p. 237.

**Phaseolin**, hydrolysis of, 1907, **XVIII**, p. 295.**Phlorhizin**, action on muscle, 1900, **IV**, p. ix.

- metabolism, 1900, **III**, p. 261.

**Phlorhizin diabetes**. See Diabetes, phlorhizin.**Phosphate**, excretion following small increase in protein ingestion, 1904, **X**, p. 269.

- metabolism, 1902, **VII**, p. 135.

**Phosphoric acid excretion in acidosis**, 1907, **XVIII**, p. 113.**Phosphorus** content of paranuclein from casein, 1900, **IV**, p. 170.

- metabolism, 1906, **XVI**, p. 268.
- poisoning, metabolism, 1899, **III**, p. 139; 1907, **XIX**, p. 461.

- Photopathy, 1901, V, p. 228.
- Phototactic response, 1901, IV, p. 460.
- Phototaxis, in Amphipoda, 1901, V, p. 211.
- Phototropism, 1903, IX, p. 26; 1905, XIII, p. 205.
- Physa, physical reactions of, 1907, XVIII, p. xiii.
- Physiological action of elements, relation to solution-tension and atomic volume,  
1904, X, p. 290.
- Physiological zero for egg of domestic fowl, 1902, VI, p. 351.
- Physiology, teaching, 1907, XIX, p. xix.
- Physostigmin, antagonized by calcium chloride, 1904, XII, p. 173.
- Phytin acid, physiological action, 1906, XVII, p. 75.
- Pig, creatinin excretion, 1911, XXIX, p. 210.
- Pigment, fluorescent, 1899, II, p. xviii.  
in frog's egg, 1909, XXV, p. 195.  
migration, 1905, XIII, p. 205.  
oxidation of, 1901, V, p. 321.
- Pigmentation, 1904, X, p. 365.
- Pilocarpine, action, 1901, VI, p. 207.
- Pilocarpine and atropine, simultaneous action, 1904, X, p. 352.
- Pineal body, action of extracts, 1911, XXVII, p. xxiii; XXIX, p. 115.
- Piston recorder, 1899, II, p. xx; III, p. 186.
- Pituitary gland, action on blood pressure, 1910, XXVI, p. 178.  
chemistry of, 1908, XXI, p. xxiii.  
essential to life, 1909, XXIII, p. xxvii.  
influences metabolism, 1912, XXX, p. 352.  
secretion of infundibular lobe, 1910, XXVII, p. 60.  
secretion possibly present in cerebrospinal liquid, 1911, XXIX, p. 64.
- Planaria maculata, function of brain, 1901, V, p. 175.  
physiology, 1901, V, p. 1.
- Planarians, reaction to light, 1900, IV, p. 373.  
regeneration, 1901, VI, p. 120.
- Plasticity, relation to age, 1908, XXI, p. xxv.
- Plethysmograph, 1901, V, p. 203.
- Pleural cannula, 1898, I, p. xv.
- Poisons, action on Fundulus, 1906, XVI, p. 1.  
antagonistic action, 1904, X, p. 352.
- Potassium chlorate, 1900, III, p. ix.  
cyanide, prolongation of life, 1902, VIII, p. 175.  
iodide, pharmacological action, 1908, XXI, p. xxv.
- Potential, differences between blood and serum, etc., 1903, VIII, p. xliii.
- Præeodysmum, physiological action, 1906, XVI, p. 314.
- Pregnancy, diabetes in, 1911, XXVIII, p. 391.  
energy metabolism in, 1910, XXV, p. xxvi.  
metabolism in, 1910, XXVI, p. 134; 1911, XXVIII, p. 422.  
metabolism of nitrogen in, 1910, XXVII, p. 177.



- Pressure-bottle**, 1900, **IV**, p. iii.
- Pressure sensations of human skin**, 1898, **I**, pp. 346, xi.
- Proceedings of the American Physiological Society**, 1898, **I**, p. iii; 1899, **II**, p. iii; 1900, **III**, p. iii; **IV**, p. iii; 1901, **V**, p. iii; 1902, **VI**, p. xi; 1903, **VIII**, p. xi; **IX**, p. ix; 1904, **X**, p. ix; 1905, **XIII**, p. xi; 1906, **XV**, p. xi; 1907, **XVIII**, p. ix; **XIX**, p. xi; 1908, **XXI**, p. xi; 1909, **XXIII**, p. xi; 1910, **XXV**, p. ix; 1911, **XXVII**, p. xi; 1912, **XXIX**, p. ix.
- Protagon**, 1905, **XIII**, p. xxxv.  
of brain, 1902, **VIII**, p. 183.
- Protein**, absorption, 1899, **II**, pp. 137, xvii; 1901, **VI**, p. 22.  
absorption without digestion, 1904, **XII**, p. 336.  
cleavage products, chemical nature, 1899, **II**, p. 168.  
cleavage products, physiological effect, 1899, **II**, p. 142.  
constitution, 1898, **I**, p. 409.  
hydrolysis, 1910, **XXVI**, pp. 212, 305.  
ingestion, small increase affects nitrogen, sulphate, and phosphate excretion, 1904, **X**, p. 269.  
metabolism. *See* Metabolism, protein.  
molecule, theory, 1899, **III**, p. 153.  
nitrogen yield, 1900, **III**, p. xxx.  
nomenclature, recommendations of the Committee on, 1908, **XXI**, p. xxvii.  
precipitation of, 1905, **XIII**, p. 436.  
production of fat by bacillus pyocyaneus, 1905, **XII**, p. 466.  
reaction with chromate, 1903, **VIII**, p. xv.  
replaced by gelatine, 1905, **XIII**, p. xxix.  
synthesis, 1903, **IX**, p. 386.  
water in, 1907, **XVIII**, p. 213.
- Proteins**, a source of glycogen, 1903, **IX**, p. 138.  
combination with fat or fatty acid, 1902, **VI**, p. xxix.  
combination with mucoids, 1904, **XI**, p. 404.  
comparative digestibility in pepsin-acid solutions, 1909, **XXIII**, p. 420.  
different forms of nitrogen in, 1908, **XXIII**, p. 180.  
individual, significance in nutrition, 1911, **XXVII**, p. xxvi.  
of castor bean, 1905, **XIV**, p. 259.  
of connective tissue, 1900, **III**, p. v.  
of maize, hydrolysis of, 1908, **XX**, p. 477.  
of wheat kernel, 1905, **XIII**, p. 35; 1906, **XVII**, pp. 223, 231.  
osmotic pressure of, 1907, **XIX**, p. xvi.
- Proteolysis**, 1901, **V**, p. xiii.  
influenced by acids, 1903, **VIII**, p. xxxiv.  
influenced by bile, 1898, **I**, p. 307.  
peptic, in acid solutions of equal conductivity, 1903, **IX**, p. xvii.
- Proteoses**, physiological action, 1903, **VIII**, p. xvi; **IX**, p. 345.
- Protoalbumose**, hydrolytic cleavage of, 1905, **XIII**, p. xii.
- Protoplasm**, contractile, structure, 1908, **XXI**, p. xi.

**Protoplasm**

contractility affected by ethyl-alcohol, 1903, **VIII**, p. xix.

inorganic elements, 1903, **VIII**, p. xlii.

neutrality of, 1907, **XVIII**, p. 250.

**Protoplasmic activity**, affected by mechanical shock, 1903, **VIII**, p. 300.

**Protozoa**, methods of study, 1907, **XVII**, p. 443.

structure changed by lack of oxygen and by certain poisons, 1898, **I**, p. 210.

**Psychic secretion**, 1905, **XIII**, p. xxxvii.

**Ptyalin**, activity affected by potassium iodide, 1908, **XXII**, p. 43.

relation to diet, 1910, **XXVI**, p. 169.

**Pulmonary circulation**, 1902, **VI**, p. 283.

**Pulse**, irregularities explained, 1898, **I**, p. 508.

**Pulse pressure** and blood pressure, relation to kidney secretion, 1904, **X**, p. xvi.

blood pressure, and velocity of blood flow, 1904, **X**, p. xv.

in pulmonary circuit, 1911, **XXVII**, p. xxi.

manometer, 1912, **XXX**, p. 242.

relation to albuminuria, 1909, **XXIII**, p. xi.

rate, 1899, **III**, p. 201.

venous, waves of, 1912, **XXIX**, p. xx.

**Pupil**, dilatation by adrenalin, 1904, **XI**, pp. 28, 37, 40, 449.

nerves influenced by calcium, 1909, **XXV**, p. 43.

**Pupillometer**, 1911, **XXVII**, pp. xiv, xxviii.

**Purgatives, saline**, action of, 1906, **XVII**, p. 15.

application to peritoneum, 1904, **X**, p. 259.

counteracted by calcium, 1903, **X**, p. 101.

**Purin bodies**, 1904, **XII**, p. 85.

**Purin metabolism**, 1907, **XX**, p. 97.

**Purkinje cells**, changes in muscular exertion, 1909, **XXV**, p. 151.

tissue, 1912, **XXX**, p. 395.

**Pylorus**, acid control of, 1907, **XX**, p. 283.

mechanism, 1904, **X**, p. xvii; 1906, **XV**, p. xxv.

**Pyrimidine derivatives**, 1910, **XXVI**, p. 77.

in nucleic acid, 1908, **XXI**, p. 157.

in triticonucleic acid, 1908, **XXI**, p. xxi.

**Q**

**Quinine**, toxicity, 1906, **XV**, p. xxiv.

**R**

**Rabbit-holder**, 1902, **VI**, p. xxvi.

**Radium**, elimination from normal and nephrectomized animals, 1907, **XX**, p. 366.

**Rarefied air**, blood pressure, 1903, **X**, p. 149.

**Reaction time of inhibition**, 1900, **III**, p. xxi.

- Recoil curve**, 1905, **XIV**, p. 287.
- Rectum**, anaesthesia by ether, 1898, **I**, p. viii.
- Reducing action** of animal organism, 1904, **XII**, p. 128; 1905, **XII**, p. 457.
- Reduction processes**, 1905, **XIII**, p. 358.
- Reflex action**, 1899, **III**, p. 45.
- Regeneration**, in planarians, 1901, **V**, p. 1; **VI**, p. 129.  
of organs, 1900, **IV**, p. 60.  
of segments, 1911, **XXVII**, p. 415.
- Reinforcement** of voluntary muscular contractions, 1898, **I**, p. 336.
- Rennin**, influence on protein digestion in milk, 1903, **X**, p. 37.
- Reproduction**, of *Paramecium aurelia*, temperature coefficient influences rate, 1911, **XXIX**, p. 147.
- Respiration**, affected by gastric and peritoneal cauterization, 1907, **XIX**, p. xv.  
after isolation from extrinsic nerve impulses, 1907, **XX**, p. 407.  
alveolar air, determination of its carbon dioxide, 1912, **XXIX**, p. 436.  
apparatus, 1899, **II**, p. xx; 1900, **III**, p. xxxii.  
apparatus for determination of carbon dioxide produced by small animals, 1911, **XXVIII**, p. 29.  
artificial, 1908, **XXI**, p. 126.  
artificial, effect on strychnine spasms, 1903, **IX**, p. 1.  
artificial, in strychnine poisoning, 1903, **VIII**, p. xlii.  
calorimeter, 1910, **XXVI**, p. 1.  
chamber, poisoning in, 1909, **XXIV**, p. 187.  
chemical regulation of, 1910, **XXV**, p. xii.  
crossing of bulbar impulse at phrenic nuclei, 1912, **XXIX**, p. xxxi.  
during gastric and peritoneal stimulation, 1907, **XX**, p. 74.  
effect of dyspnoea from breathing a confined volume of air, 1911, **XXVIII**, p. 369.  
influence of forced breathing on blood flow in hands, 1911, **XXVIII**, p. 190.  
inhibition by distention of lungs, 1912, **XXIX**, p. xxxii.  
of oxygen-rich gas mixtures, 1911, **XXVIII**, p. 1.  
oxygen tension influenced by muscular activity, 1912, **XXX**, p. 18.  
phlorhizin diabetes, 1903, **IX**, p. xviii; **X**, p. 47.  
rarefied air, 1903, **X**, p. 149.  
related to alveolar tension of oxygen, 1910, **XXVI**, p. 156.  
relation to vagus nerves, 1912, **XXIX**, p. xxix.  
scheme, 1904, **X**, p. xlii.  
spinal, 1900, **III**, p. xxiv.  
spinal pathways, 1911, **XXVIII**, p. 57.
- Respiratory centre**, 1906, **XV**, p. xi.  
centre, in the skate, 1904, **X**, p. 236.  
centre, reflex, 1906, **XVI**, p. 368.  
centre, "Traube" waves, 1899, **II**, p. 352.  
exchange, affected by body position, 1911, **XXVII**, p. 406.  
exchange, method for study of, 1909, **XXIV**, p. 345.

**Respiratory**

- exchange, with carbohydrate diet, 1912, **XXX**, p. 217.
- mechanisms, resuscitation of, 1907, **XIX**, p. 328.
- movements affect blood pressure, 1908, **XX**, p. 451.
- movements affected by blood pressure, 1906, **XVI**, p. 475.
- nervous mechanism, resuscitation of, 1907, **XX**, p. 61.
- quotient, related to diet, 1911, **XXVII**, p. 383.
- variations in venous pressure, 1903, **IX**, p. 198.
- Resuscitation**, 1908, **XXI**, p. xxvi.
- Rheochord**, 1901, **V**, p. xvii.
  - new, 1899, **IV**, p. xv.
  - square, 1903, **VIII**, p. xli.
- Rheotaxis**, from optical stimuli in lobster, 1906, **XVII**, p. 326.
- Rheotome**, 1901, **V**, p. xvii.
- Rheotropism** in fishes, 1904, **XII**, p. 149; 1909, **XXIII**, p. xxxvii.
  - of fish blind in one eye, 1909, **XXIV**, p. 244.
- Rhythm**, affected by electrolytes, 1906, **XVI**, p. 221.
  - affected by ions, 1900, **III**, p. 383.
  - of œsophagus, 1901, **V**, p. 338.
- Rhythmic contraction**, affected by calcium and oxygen, 1902, **VII**, p. 409.
  - in *Gonionemus*, 1909, **XXIV**, p. 117.
- Ricin**, 1904, **X**, p. xxxvi; 1905, **XIII**, p. xxxii; **XIV**, p. 259.
- Rigor caloris**, 1898, **II**, p. 45; 1902, **VII**, p. 1; 1909, **XXIV**, p. 178.
- Rigor**, force of contraction, 1901, **V**, p. 374.
- Rigor mortis**, 1902, **VII**, p. 1; 1903, **IX**, p. 374.
  - influenced by fatigue, etc., 1898, **II**, p. 29.
- Rigor**, of heart, affected by vagus, 1909, **XXV**, p. 113.
- Röntgen rays**, in study of alimentary movements, 1898, **I**, pp. 359, 435, xii, xiii.
- Rotation experiments**, 1899, **III**, p. 90.
- Rubidium excretion**, 1906, **XVI**, p. 152.

**S**

- Saccharose**, parenteral introduction, 1910, **XXVI**, p. 396.
- Salicylic acid**, influence on metabolism, 1909, **XXV**, p. 34.
- Saline solutions**, action on vitality of blood vessels, 1906, **XV**, p. 144.
  - diuretic effect, 1903, **IX**, pp. 454, xiii.
- Saliva**, amylolytic action, 1898, **I**, pp. 461, iii; 1900, **IV**, p. 250.
  - chemical reaction, 1898, **I**, p. 463.
  - composition, 1898, **I**, pp. 461, iii.
  - composition, oxygen supply and, 1908, **XXI**, p. xxvi.
  - composition varies with oxygen supply of submaxillary gland, 1907, **XX**, p. 180; 1908, **XX**, p. 457.
  - diastase in, 1908, **XXII**, p. 1.
  - glucose in, 1908, **XXI**, pp. 301, xxv.

**Saliva**

- secretion, adaptation to diet, 1906, **XV**, p. 406.
- secretion affected by alcohol, 1898, **I**, p. 164.
- secretion affected by ptyalin concentration, 1910, **XXVI**, p. 169.
- secretion of water, 1907, **XIX**, p. 360.
- spontaneous secretion, 1901, **IV**, p. 482.
- submaxillary of dog, composition, 1898, **I**, p. 166.
- sulphocyanide content, 1901, **V**, p. 274.
- sulphocyanide content of human, 1900, **IV**, p. vii.
- variations in amylolytic power, 1898, **I**, pp. 461, iii.

**Salivary digestion in stomach**, 1898, **I**, p. 379; 1903, **VIII**, p. xxviii; **IX**, p. 396.

**Salmon**, changes in the run to the spawning beds, 1903, **VIII**, p. xlii.

**Salt solutions**, their effect upon the respiration, heart beat, and blood pressure in the skate, 1908, **XXIII**, p. 201.

**Salts**, antagonism to anæsthetics, 1912, **XXIX**, p. 372; **XXX**, p. 1.

- antagonistic action, 1911, **XXVII**, p. xxxii.

- decomposition-tension, and anti-fermentative properties, 1904, **X**, p. 444.

- tension coefficient, 1905, **XIV**, p. 203.

**Secretin** and lymph-flow, 1903, **IX**, p. xv.

**Secretion**, enzyme concentration related to blood supply, 1909, **XXIV**, p. 234.

- nerve-control, 1901, **VI**, p. 207.

- relation to blood pressure, 1910, **XXVII**, p. 24.

**Selenium**, toxicology, 1902, **VI**, p. xxix.

**Semicircular canals**, relation to compensatory movements, 1912, **XXIX**, p. 367.

- removal, 1899, **III**, p. 98.

**Sensation in lower animals**, 1900, **III**, p. 271.

**Sensation of vibrations**, 1911, **XXIX**, p. 108.

**Serum albumin**, effect on frog's heart, 1899, **III**, p. 130.

**Serum**, proteins unite with alkali, 1908, **XXI**, p. 169.

**Shellacking device**, 1911, **XXVII**, p. xxx.

**Shock**, 1906, **XV**, p. xxxi; 1908, **XX**, p. 500; 1909, **XXIII**, pp. 345, xxxvii; **XXIV**, p. 124.

- after excessive respiration, 1910, **XXV**, p. 310.

- after intense pain, 1910, **XXV**, p. 385.

- and acapnia, 1908, **XXI**, p. 126; 1909, **XXIV**, p. 66; 1910, **XXVII**, p. 152.

- and acapnia, and anæsthesia, 1910, **XXVI**, p. 260.

- from loss of carbon dioxide and relief by partial asphyxiation, 1907, **XIX**, p. xiv.

- relation to venous pressure, 1909, **XXIII**, p. xxx.

- spinal, 1912, **XXX**, p. 436.

- vasoconstrictor neurons, 1904, **X**, p. xii.

**Skate**, effect of salt solutions upon, 1908, **XXI**, p. xvii.

**Skin**, blood pressure in, 1912, **XXIX**, p. 335.

- circulation in, 1900, **III**, p. xii.

- effects of local anæsthesia, 1910, **XXVII**, p. 45.

**Skin**

- nerves in fishes, 1905, **XIV**, p. 413.
- pressure sensations, 1898, **I**, pp. 346, xi.
- reaction to light, 1903, **X**, p. 28.

**Sleep**, cerebral circulation in, 1909, **XXIII**, p. xii.

- infants, 1906, **XV**, p. xxxi.
- vascular changes, 1901, **V**, pp. 199, iii.

**Smoking**, effect on blood pressure, 1909, **XXIV**, p. 104.**Soaps**, in pathological conditions, 1905, **XIII**, p. xxi.**Sodium carbonate**, formation, 1901, **V**, p. 180.**Sodium chloride**, excretion in urine, 1902, **VIII**, p. 139.

- neutralized by sodium sulphate, 1902, **VII**, p. 315.
- poisonous effects of solution, 1900, **III**, p. 336; **IV**, p. 386.
- poisons nerve and muscle, 1901, **VI**, p. 77.
- retention, 1902, **VIII**, p. 155.

**Sodium sulphate**, neutralizes sodium chloride, 1902, **VII**, p. 315.**Soil oxidation**, 1911, **XXVII**, p. xxv.**Solution-tension**, relation to atomic volume and physiological action, 1904, **X**, p. 290.**Soxhlet apparatus modified**, 1899, **III**, p. 183.**Spasms**, controlled by asphyxiation, 1908, **XXII**, p. 440.**Sperm**, duration of life in sea-water, 1903, **VIII**, p. 430.**Spermatozoa**, enzyme, 1901, **VI**, p. 53.**Sphygmograph**, 1899, **II**, p. xx.**Sphygmomanometer**, 1901, **V**, p. 203; 1904, **X**, p. xiv.

- new method of measuring systolic pressure, 1908, **XXI**, p. xxiv.

**Spinal cord**, chemical analysis, 1904, **XI**, p. 303.

- hemisection, 1906, **XV**, p. xxxi.
- micturition centre, 1899, **II**, p. 188.
- path of bladder impulses, 1899, **II**, p. 197.
- pseudo-fatigue of, 1909, **XXIV**, p. 384.
- reflexes affected by lesions of dorsal roots, 1910, **XXVII**, p. 212.
- reflexes after section, 1899, **III**, p. 45.
- regeneration, 1902, **VI**, p. xxi.
- shock, 1912, **XXX**, p. 436.
- transection, effect of, on asphyxial rise of blood pressure, 1911, **XXVII**, p. xxii.

**Splanchnic**, action on movements of stomach and intestine, 1906, **XVII**, p. 429.**Splanchnic section**, effect on alimentary canal, 1905, **XIII**, p. xxii.**Spleen**, relation to immunity, 1911, **XXVII**, p. xvi; **XXVIII**, p. 257.

- relation to pancreas, 1902, **VI**, p. xiv; **VII**, p. 387.
- removal influences nitrogenous metabolism, 1907, **XVIII**, p. 201.

**Splenectomy**, effect on protein metabolism, 1904, **X**, p. xxix.

- effect on uric acid, 1900, **IV**, p. 163.
- metabolism, 1900, **III**, p. iii.

- Staining**, chemistry of, 1898, **I**, p. 445.  
intravital, 1904, **XII**, p. 207.
- Starch**, inversion by platinum black, 1906, **XV**, p. 412.
- Starvation**, effect on brain, 1904, **XII**, p. 116.  
effect on growth, 1907, **XVIII**, p. 309.  
nervous system, 1906, **XV**, p. xxxi.  
protein metabolism in, 1908, **XXI**, p. xxvi.  
urine, 1907, **XVIII**, p. 362.
- Static function in Gonionemus**, 1903, **X**, p. 201.
- Stimulation**, affected by permeability of limiting membranes, 1911, **XXVIII**, p. 197.  
chemical and electrical, 1904, **XI**, p. 455; 1906, **XVII**, p. 266.  
faradic, 1908, **XXII**, pp. 61, 116; 1909, **XXIV**, p. 269; 1911, **XXVIII**, p. 49.  
faradic, relation to tissue resistance and kathode surface, 1910, **XXVII**, p. 226.  
faradic, with make and break currents, 1910, **XXVI**, p. 181.  
relation to area stimulated, 1908, **XXI**, p. xiii.  
relation to permeability, 1909, **XXIV**, p. 14.  
theory of, 1905, **XIV**, p. 203.
- Stimulator**, mercury-mercury, 1903, **VIII**, p. xx.  
platinum mercury, 1903, **VIII**, p. xx.
- Stomach**, absorption of alcohol from, 1898, **I**, p. 205.  
absorption of fat by, 1912, **XXX**, p. 278.  
accessory, operation for, 1906, **XVII**, p. 321.  
acid closure of cardia, 1908, **XXIII**, p. 105.  
anatomy in cat, 1898, **I**, p. 364.  
and intestine, peristalsis, 1909, **XXIII**, p. xxvii.  
course of contraction wave in, 1908, **XXIII**, p. 165.  
digestion of cane-sugar, 1898, **I**, p. 277.  
duration of digestion, 1898, **I**, p. 202.  
effect of removal on metabolism, 1910, **XXVI**, p. 369.  
emptying, 1904, **X**, p. xix; **XII**, p. 387.  
inhibited by emotions, 1898, **I**, p. 380.  
motility related to vagi and splanchnic nerves, 1910, **XXV**, p. 334.  
motor activities of, 1906, **XVII**, p. 429.  
movements, 1898, **I**, pp. 359, xiii; 1901, **V**, p. xvii; 1903, **VIII**, pp. xxi, xli; 1911, **XXVII**, p. xxxi.  
movements in surgical conditions, 1906, **XV**, p. xxv.  
movements inhibited by opening the abdomen, 1909, **XXIII**, p. xvii.  
passage of different food-stuffs, 1904, **X**, p. xvii.  
reaction of contents 1898, **I**, p. 378.  
receptive relaxation, 1911, **XXVII**, p. xiii; **XXIX**, p. 267.  
salivary digestion in, 1898, **I**, p. 379; 1903, **VIII**, p. xxviii; **IX**, p. 396.  
secretion affected by drinking water with meals, 1911, **XXVII**, p. xxxii.
- Strawberry**, lymphagoc action, 1902, **VII**, p. 380.



- Stretching nerves**, affects conductivity, 1911, **XXVII**, p. 323.
- Strontium**, 1903, **IX**, p. xviii.  
calcium, and magnesium, their relative action, 1908, **XXI**, p. 449.  
elimination, 1898, **I**, p. 83.  
excretion, 1904, **XI**, p. 5.
- Strophanthin**, absorption, excretion, and destruction, 1909, **XXIII**, pp. 303, xxxvii.
- Strychnine**, colloidal compound, 1906, **XV**, p. xxii.  
fate in the intestine, 1904, **XII**, p. 237.  
habit, and antagonism to adrenalin, 1912, **XXIX**, p. xxxv.  
influence on spinal cord, 1901, **V**, p. 333.  
morphine, quinine, comparative toxicity, 1906, **XV**, p. xxiv.  
poisoning, affected by artificial respiration, 1903, **VIII**, p. xlii.  
spasms affected by artificial respiration, 1903, **IX**, p. 1.
- Submaxillary gland**, blood supply affects composition of saliva, 1907, **XX**, p. 180;  
1908, **XX**, p. 457.  
in rest and activity, 1899, **III**, p. 19.  
structure, relation to function, 1908, **XXI**, p. xix.  
vaso-dilator fibres in cervical sympathetic, 1907, **XIX**, p. 408.
- Sugar**, production, 1898, **I**, p. 402; 1904, **X**, p. 229.  
production from amino-acids, 1910, **XXV**, p. xix.  
utilization of, by the tissues, 1908, **XXI**, p. 334.
- Sugars**, oxidation, 1907, **XIX**, p. 175.  
oxidation in an acid medium, 1908, **XXI**, p. 23.
- Sulphate**, excretion following small increase in protein ingestion, 1904, **X**, p. 269.
- Sulphates**, quantitative determination in urine, 1902, **VII**, p. 152.
- Suprarenal extract**. See Suprarenal gland, extract.
- Suprarenal gland**, action on blood pressure, 1901, **V**, pp. vi, ix.  
active principle, 1901, **V**, p. 457; 1902, **VII**, p. 359.  
active principle and chromogen, 1900, **IV**, p. 57.  
chromogen, 1900, **III**, p. xvi.  
enzyme, 1904, **X**, p. xxv.  
extract, 1903, **VIII**, pp. 447, xli.  
extract, action on blood vessels, 1903, **IX**, pp. 147, 252.  
extract, effect on pupils of frog, 1904, **XI**, p. 449.  
extract lowers blood pressure, 1900, **III**, p. xviii.  
extract, reducing power, 1903, **VIII**, p. xxx.  
function, 1901, **V**, p. 358.  
nucleic acid, 1902, **VI**, p. xxvi.  
nucleo-proteid, 1902, **VII**, p. 423.  
removal causes cardiac thrombosis, 1900, **IV**, p. 51.  
transplantation, 1905, **XIII**, p. xvi; 1906, **XV**, pp. 444, xxxi.  
transplantation, with survival after removal of remaining suprarenal, 1904, **X**, p. xix.  
xanthin content, 1903, **VIII**, p. xlii.
- Suprarenal secretory nerves**, 1899, **II**, p. 203.

- Surface action, metals, 1902, **VI**, p. xxvi.  
Surgical shock, use of alkaline solutions, 1900, **IV**, p. xiv.  
Swelling of organic tissues, 1904, **XII**, p. 297.  
Sympathetic, superior cervical ganglion fails to regenerate, 1907, **XVIII**, p. xiv.  
Sympathetic ganglia, action of their extracts, 1899, **II**, p. 471.  
Sympathetic nerve, effect of removal of superior ganglion compared with section of cervical sympathetic, 1903, **IX**, p. xviii.  
Synthesis, of nuclein, 1909, **XXV**, p. 120.

## T

- Taste, confusion with odors, 1899, **II**, p. xx.  
fibres, relation to trigeminus, 1903, **VIII**, p. xxvii.  
in *Allolobophora*, 1906, **XVII**, p. 55.  
Tellurium, action of, 1901, **V**, p. 104.  
action of compounds, 1900, **III**, p. xx.  
Telogeny, 1900, **III**, p. xxxii.  
Temperature coefficients, of rate of heart beat, 1911, **XXVIII**, p. 81.  
Temperature coefficient, at different temperatures, 1910, **XXV**, p. xxvii.  
of nervous conduction, 1908, **XXI**, p. xxvi.  
physiological processes, 1911, **XXVIII**, p. 167.  
Temperature, high, physiological effects, 1899, **II**, p. 220.  
influence on nervous conductivity, 1900, **IV**, p. 301; 1908, **XXII**, p. 179.  
influence on rate of reproduction in *Paramecium aurelia*, 1911, **XXIX**  
p. 147.  
normal, of rabbits, 1912, **XXX**, p. 430.  
of body during inversion of daily routine, 1904, **XI**, p. 145.  
of rats in moist atmosphere, 1907, **XVIII**, p. 1.  
reactions in *Spirillum*, *Hydra*, and fresh-water Planarians, 1903, **X**, p. 165.  
regulation, in woodchuck, 1912, **XXIX**, p. xii.  
relation to physiological and physical reactions, 1908, **XXII**, p. 309.  
sensations, following nerve division, 1909, **XXIII**, p. xxii.  
Tendinous tissue, chemical constituents, 1901, **VI**, p. 219.  
Tendon mucoid, 1901, **VI**, p. 155.  
Terminal arteries, 1899, **II**, p. 245.  
Tetany, inhibited by parathyroid extract, 1907, **XIX**, p. xiii.  
parathyroid. *See* Parathyroid tetany.  
Thebesius, vessels of, anatomy, 1898, **I**, p. 87.  
Thorium, pharmacology of, 1907, **XVIII**, p. 426.  
poisonous action, 1907, **XVIII**, p. 457.  
Thrombin, antithrombin, and prothrombin, 1910, **XXVI**, p. 453.  
intravenous injection, 1911, **XXIX**, p. 160.  
Thromboplastin, 1911, **XXIX**, p. 187.  
preparation of extracts from tissues, 1911, **XXIX**, p. 156.  
Thrombosis, cardiac, 1900, **IV**, p. 51.

- Thymin**, 1900, **III**, p. xxxii.
- Thymus gland**, enzyme, 1904, **X**, p. xxiv.  
iodine in, 1900, **III**, p. 285.
- Thyroid gland**, 1907, **XIX**, p. xix.  
affects comparative toxicity of different animal tissues, 1912, **XXX**, p. 56.  
experimental hyperthyroidism, 1912, **XXX**, p. 120.  
internal secretion of, 1909, **XXIII**, p. xix; 1910, **XXVI**, p. 32, 426.  
iodine in, 1900, **III**, p. 285.  
physiology, 1901, **VI**, p. xxvi.  
pressure liquid, intravenous injection, 1912, **XXX**, p. 42.  
relation to immunity, 1910, **XXVI**, p. 72.  
relation to morphine poisoning, 1910, **XXVI**, p. 354.  
relation to parathyroid, 1901, **VI**, p. xxvii.  
removal affects carbohydrate metabolism, 1909, **XXV**, p. 66.  
removal, relation to adrenalin glycosuria, 1911, **XXVII**, p. 331.  
replacement by parathyroids, 1911, **XXVII**, p. xxvii.  
secretion of, 1910, **XXVI**, p. 32.  
substance detected in blood by aceto-nitrile test, 1912, **XXX**, p. 63.  
toxicity of, 1912, **XXX**, p. 37.
- Thyroidectomy**, relation to increase in ammonia, 1910, **XXV**, p. 403.
- Thyroidism**, 1911, **XXVII**, p. xiii.  
congenital, 1910, **XXV**, p. xii; **XXVI**, p. 426.
- Toadstools**, physiological action, 1901, **V**, p. 158.
- Tobacco**, effect on fatigue, 1901, **V**, p. 262.
- Tonus**. See *Muscle*, tonus.
- Torcular pulse**, 1898, **I**, p. 68.
- Toxic and antitoxic action of salts**, 1905, **XII**, p. 419.
- Toxicity of salts and acids**, 1909, **XXV**, p. 190.
- Tracheal cannula**, 1905, **XIII**, p. xxxvii.
- Transformation and regeneration of organs**, 1900, **IV**, p. 60.
- Transplantation of blood vessels**, 1907, **XIX**, p. 482.
- Transplantation, suprarenal**, 1906, **XV**, pp. 444, xxxi.
- Traube-Hering waves**, 1900, **III**, p. 222.
- "**Traube**" waves, 1899, **II**, p. 352.
- Tri-brom-tertiary butyl-alcohol**, pharmacological and chemical properties, 1903, **VIII**, p. xviii.
- Triticonucleic acid**, pyrimidine derivatives in, 1908, **XXI**, p. xxi.
- Trophic nerves**, theory tested by healing of wounds in denervated areas, 1910, **XXVI**, p. 413.
- Trypsin**, chemical nature, 1901, **V**, p. 298.
- Tumors**, chemistry of, 1908, **XXI**, p. xxv.  
composition of, 1905, **XIII**, p. 341.  
inorganic constituents, 1904, **XII**, p. 167.  
pentose content, 1905, **XIV**, p. 231.
- Typhoid bacillus**, action of toxic products on heart, 1900, **IV**, p. viii.

## U

- Unicellular organisms**, motor reactions, 1900, **III**, pp. 229, 397.  
reaction to stimuli, 1899, **II**, pp. 311, 355; 1901, **VI**, p. 31; 1902, **VI**, p. 233;  
**VIII**, p. 23.
- Uranium**, action of, 1910, **XXVI**, p. 381.
- Urea**, elimination, 1909, **XXIII**, p. 324; **XXV**, p. 214.
- Ureine**, 1904, **XII**, p. 162.
- Ureter**, graphic record of peristalsis, 1906, **XVII**, p. 392.  
physiology and pharmacology of, 1908, **XXII**, p. 245.
- Uric acid**, 1900, **III**, p. xxxi.  
elimination, 1904, **XII**, p. 38; 1907, **XIX**, p. 97.  
elimination influenced by chinc acid, 1903, **IX**, p. xvi.  
excretion, 1900, **III**, p. 262.  
excretion affected by alcohol, 1904, **XII**, p. 13.  
formation after splenectomy, 1900, **IV**, p. 163.
- Urine**, acidity, 1903, **IX**, p. 265.  
analysis in starving woman, 1907, **XVIII**, p. 362.  
apparatus for recording secretion, 1906, **XV**, p. xxxii.  
chlorides affected by diuretics, poisons, etc., 1903, **IX**, p. 425.  
composition, 1900, **III**, p. 269; 1905, **XIII**, pp. 45, 66; 1907, **XIX**, p. xix.  
constituents affected by diminished excretion of sodium chloride, 1902, **VIII**,  
p. 139.  
coyote, 1905, **XIII**, p. 30.  
depression of freezing point and specific gravity related to metabolism, 1903,  
**IX**, p. 319.  
depressor action, 1910, **XXVI**, p. 26.  
determination of ammonia, 1903, **VIII**, p. 330.  
determination of sulphates, 1902, **VII**, p. 152.  
energy factors after severe muscular exercise, 1911, **XXVIII**, p. 291.  
estimation of sugar and albumin, 1903, **IX**, p. 319.  
mineral constituents of, 1908, **XXII**, p. 411.  
muskrat, 1903, **IX**, p. 391.  
secretion influenced by proteins, 1899, **II**, p. 164.

## V

- Vagus nerve**, action on heart, 1898, **I**, p. 486.  
action on heart block and ventricular rate, 1912, **XXX**, p. 451.  
action on heart rhythm, 1911, **XXVIII**, p. 330.  
action on movements of stomach and intestine, 1906, **XVII**, p. 429.  
action on respiration, 1912, **XXIX**, p. xxix.  
action on vasomotor centre, 1912, **XXX**, p. 303.  
effect of excitation on carotid pulse curve, 1906, **XV**, p. xxxi.  
effect of section on œsophageal peristalsis, 1907, **XIX**, p. 436.

**Vagus nerve**

- effect of temperature upon, 1909, **XXIV**, p. 341.
- in guinea-pig, 1898, **I**, p. 384.
- inhibition, effect on potassium output, 1908, **XXI**, pp. 51, xxv.
- inhibition from rise of pressure in the aorta, 1907, **XIX**, p. xii.
- inhibition, related to calcium, 1912, **XXIX**, p. xi.
- inhibition, related to inorganic salts of the blood, 1906, **XV**, pp. 280, xiv.
- irritability of cardiac branches affected by calcium, 1909, **XXIII**, p. xx.
- relation to cardiac inhibition, 1910, **XXV**, p. xxv; 1912, **XXX**, p. 105.
- section, affects alimentary canal, 1905, **XIII**, p. xxii.
- section, affects peristalsis of œsophagus, 1907, **XVIII**, p. xiv.
- stimulation, affects cardiac rigor, 1908, **XXI**, p. xiv; 1909, **XXV**, p. 113.
- stimulation, electrical changes in heart, 1912, **XXX**, p. 271.
- stimulation, method for, 1898, **I**, p. 488.

**Valency**, physiological effects, 1902, **VI**, p. 411.

**Vanadium**, pharmacological action, 1912, **XXIX**, p. xxiii

**Vascular conditions during hypnotic sleep**, 1900, **IV**, pp. 124, xv.

**Vasoconstrictor neurons in shock**, 1904, **X**, p. xii.

**Vaso-dilator fibres**, in cervical sympathetic to submaxillary gland, 1907, **XIX**, p. 408.

to submaxillary gland, 1908, **XXII**, p. 279.

**Vasomotor cells**, differences between bulbar and spinal, 1908, **XXI**, p. xv.

centre, depressor nerve, 1900, **III**, p. xxiii; **IV**, p. 283.

centre effect of cerebral injuries on, 1905, **XIII**, p. xxii; 1907, **XVIII**, p. 181.

centre influence on heart-rate, 1900, **III**, pp. 205, 215.

centre reaction to asphyxia, 1911, **XXIX**, p. 100.

centre reaction to sciatic stimulation and to curare, 1910, **XXVI**, p. 233.

centre reaction to vagus section and stimulation, 1912, **XXX**, p. 303.

centre relation to afferent impulses, 1907, **XX**, pp. 399, 444; 1910, **XXVII**, p. 276.

centre response to depressor stimulation, 1912, **XXX**, p. 369.

fatigue, 1907, **XX**, p. 444.

fibres, in third cervical nerve, 1903, **VIII**, p. xlii.

mechanism, possibly affected by hormones, 1909, **XXIII**, p. xxiii.

nerves, brain, 1899, **II**, p. xii.

nerves, heart, 1900, **III**, p. xxiv.

nerves in rabbit's ear, 1903, **IX**, p. 57.

nerves of cerebral vessels, 1907, **XX**, p. 206; 1908, **XXI**, p. 454.

nerves of cerebrum, 1905, **XIV**, p. 452.

nerves of spleen, 1909, **XXIII**, p. xxxvii.

nerves to veins of hind limb, 1898, **I**, p. 477.

neurons in shock, 1908, **XX**, p. 500.

phenomena of ear, influenced by adrenalin, 1903, **VIII**, p. xlii.

reactions of peripheral areas to variations in blood pressure, 1908, **XXI**, p. xvi.

**Vasomotor**

- reflexes, 1910, **XXVII**, p. 276.
- reflexes affected by hemorrhage, 1908, **XXI**, p. 460.
- reflexes comparative, 1908, **XXI**, p. xv.
- reflexes comparative study, 1908, **XXIII**, p. 131.
- reflexes interval between minimal and maximal fall in blood pressure on stimulating the depressor nerve, 1909, **XXIII**, p. xxxv.
- reflexes interval between minimal and maximal rise in blood pressure on stimulating, the sciatic nerve, 1909, **XXIII**, p. xxxiv.
- reflexes relation to portions of the sciatic nerve, 1909, **XXIII**, p. xxxv.
- Vasomotor tonus**, 1911, **XXVIII**, p. 361.
- Vasomotors**, affected by suprarenal extract, 1903, **IX**, p. 147.
- Vegetable proteins**, utilization by animals, 1904, **XI**, p. 355.
- Vegetables**, digestibility, 1903, **X**, p. 81.
- Veins**, nerves of, 1898, **I**, p. 477.
  - nourish the heart, 1898, **I**, pp. 86, 516.
  - of Thebesius, anatomy, 1898, **I**, p. 87.
- Velocity of reactions affected by temperature**, 1908, **XXII**, p. 309.
- Venomotor nerves**, of hind limb, 1898, **I**, p. 477.
- Venous blood-flow during muscular contraction**, 1903, **IX**, p. 161.
- Venous hæmorrhage and intravenous infusion in dogs**, 1900, **IV**, p. 1.
- Venous pressure**, 1903, **IX**, p. 198.
  - in man, 1909, **XXIII**, p. xxxvii.
- Ventricle**, distention checks flow of blood through walls of heart, 1898, **I**, p. 215.
- Vetch legumin**, hydrolysis of, 1908, **XXII**, p. 423.
- Viscosity of blood**, 1902, **VII**, p. 243.
- Viscosity of body fluids**, 1911, **XXVIII**, p. 161.
- Vision**, blind spot, 1912, **XXIX**, p. 398.
  - relation to compensatory movements, 1899, **III**, p. 106.
  - sensations caused by changes in the strength of a magnetic field, 1911, **XXIX**, p. 124.
- Visual sensations and perceptions**, 1901, **V**, p. 462.
- Visual stimuli**, affect auditory stimuli, 1903, **IX**, p. 116.
  - affect eye movements, 1903, **IX**, p. 122.
- Voice production**, 1898, **I**, p. vi.
- Volume-curve**, mammalian ventricle, 1905, **XIII**, p. xxiv.
- Volume pulse in finger**, 1899, **III**, p. 197.
- Vomiting**, 1898, **I**, p. 373.

**W**

- Water**, determination of, 1905, **XIII**, p. 309.
- Water drinking**, with meals, effect on intestinal putrefaction, 1911, **XXVII**, p. xxv.
  - with meals, effect on pancreatic function, 1911, **XXVII**, p. xxvi.
  - with meals, stimulation of gastric secretion, 1911, **XXVII**, p. xxxii.
- Water**, evaporation from skin and air passages, 1908, **XXI**, p. xxvi.

**Water in food**, 1905, **XIII**, p. 309.

**Water loss**, effects analogous to those produced by lowering the temperature, 1901, **VI**, p. 122.

**Wheat bran**, rôle of ash constituents in metabolism, 1909, **XXIV**, p. 86.

kernel, proteins of, 1906, **XVII**, pp. 223, 231.

**Witte's peptone**, 1902, **VII**, pp. 203, 220.

**Wounds**, healing in denervated areas related to trophic nerves, 1910, **XXVI**, p. 413.

## X

**Xanthin** as a cause of fever, 1907, **XX**, p. 439.

bases in fæces, 1900, **IV**, p. 83.

bodies in suprarenal gland, 1903, **VIII**, p. xlii.

## Z

**Zein**, analysis of, 1910, **XXVI**, p. 295.

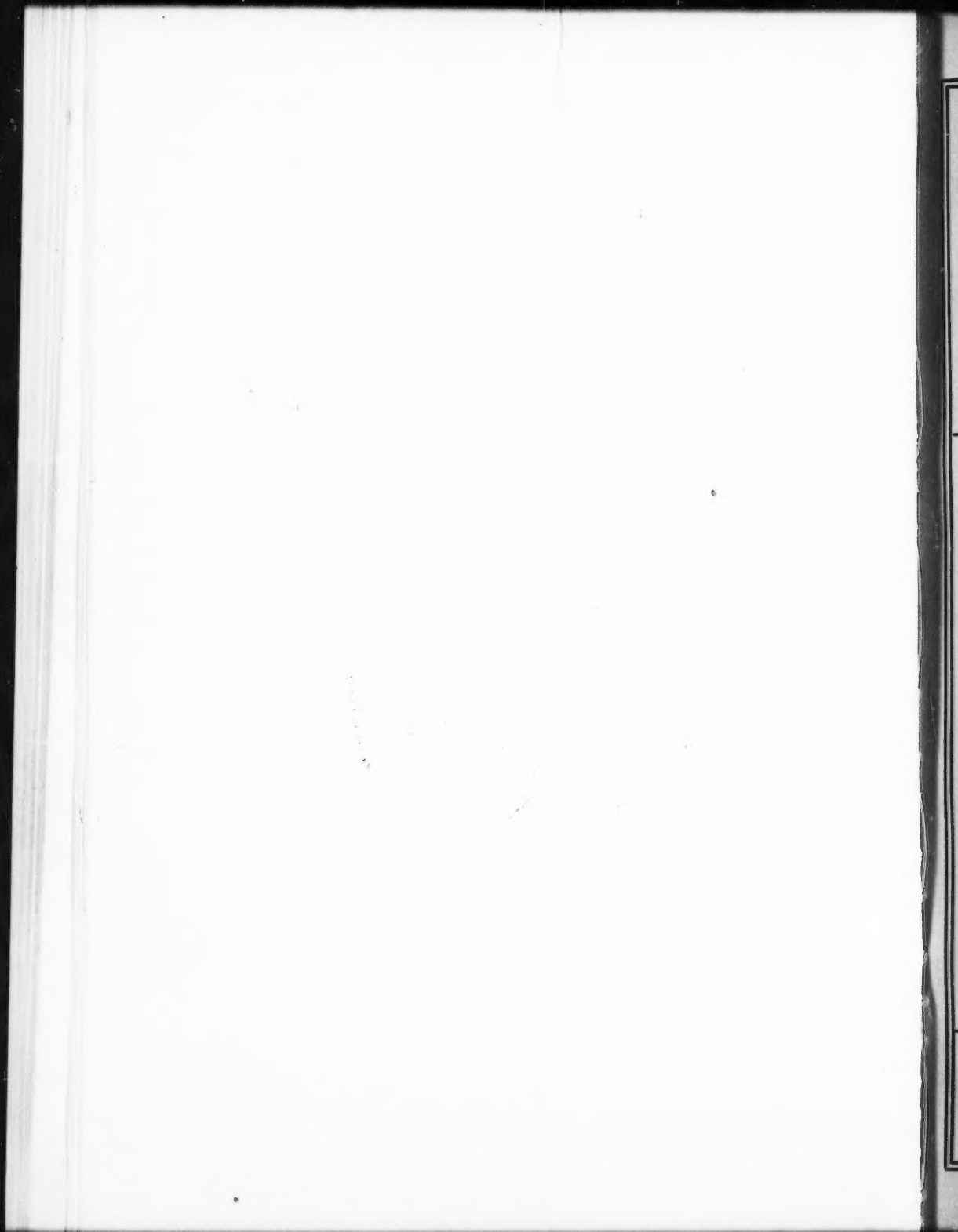
**Zygadenus intermedius**, action of alkaloids of, 1911, **XXVIII**, p. 318.

**Zygadenus venenosus**, death camass, 1902, **VI**, p. xix.



re,

13.



A5  
J86

P6i

UNIV. OF MICHIGAN

JUL 21 1913

THE AMERICAN  
JOURNAL OF PHYSIOLOGY

2190

EDITED FOR

The American Physiological Society

Index to Volumes I to XXX

BOSTON, U. S. A.

1913

THE AMERICAN JOURNAL OF PHYSIOLOGY is issued monthly. The price of one volume, sent postage free to subscribers in the United States and Canada, is five dollars and fifty cents; to subscribers in other countries, five dollars and seventy-five cents. The price of Volumes One, Two, and Three will be six dollars to domestic subscribers, and six dollars and twenty-five cents to foreign subscribers. All subscriptions are payable in advance.

---

The price of the Index of Authors and of Subjects in the first thirty volumes is four dollars, payable in advance.

---

Subscriptions, manuscript, and all other communications should be sent to THE AMERICAN JOURNAL OF PHYSIOLOGY, Box 127, Back Bay P. O. Boston, Mass., U.S.A.

---

Copyright, 1913, by THE PLIMPTON PRESS

---

Printed at THE PLIMPTON PRESS, Norwood, Mass., U.S.A.

*Entered at the Boston, Mass., Post Office, as second-class matter, Feb. 11, 1903.*

